INVE$TING IN LEARNING

School Funding Policies To Foster High Performance

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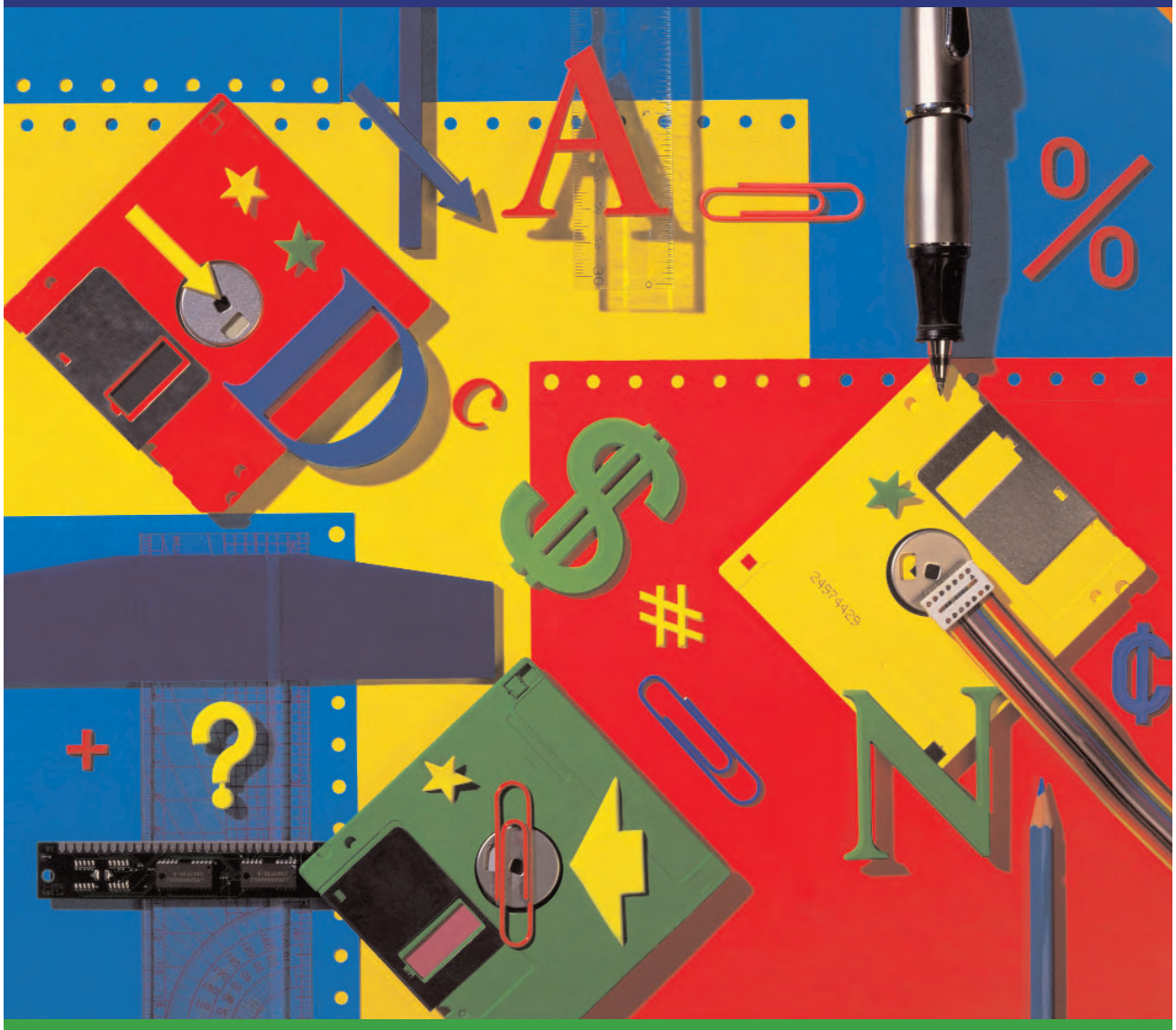

A Statement by the Research and Policy Committee
of the Committee for Economic Development

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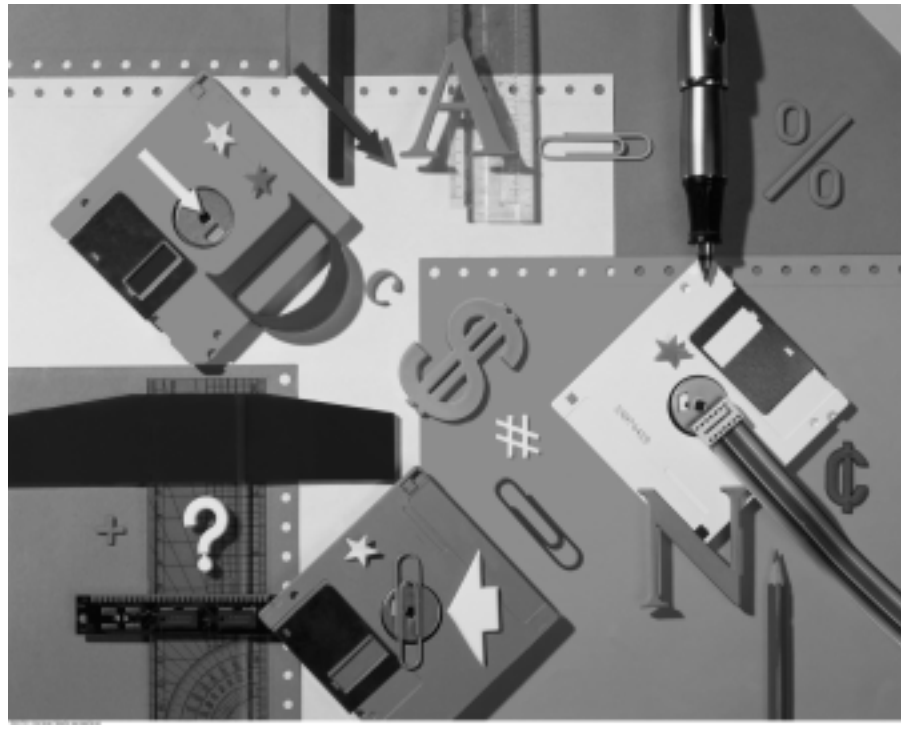

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All CED policy recommendations must have the approval of trustees on the Research and Policy Committee. This committee is directed under the bylaws, which emphasize that "all research is to be thoroughly objective in character, and the approach in each instance is to be from the standpoint of the general welfare and not from that of any special political or economic group." The committee is aided by a Research Advisory Board of leading social scientists and by a small permanent professional staff.

The Research and Policy Committee does not attempt to pass judgment on any pending specific legislative proposals; its purpose is to urge careful consideration of the objectives set forth in this statement and of the best means of accomplishing those objectives.

Each statement is preceded by extensive discussions, meetings, and exchange of memoranda. The research is undertaken by a subcommittee, assisted by advisors chosen for their competence in the field under study.

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PURPOSE OF THIS STATEMENT

The Committee for Economic Development has taken a strong, on-going interest in the quality of education provided by our public schools. In 1994, we published *Putting Learning First: Governing and Managing the Public Schools for High Achievement*, which emphasized the need to reorder educational priorities and emphasize learning and achievement as schools' primary mission. In 2001, we released our report, *Measuring What Matters: Using Assessment and Accountability to Improve Student Learning*, which stressed the importance of testing and assessment to school improvement efforts.

Many of the changes advocated in these statements have been implemented, particularly regarding testing and assessment. Following the No Child Left Behind Act of 2002, the nation's education policy placed new emphasis on *outcomes* and on the *accountability* of public schools to achieve them.

But, in CED's view, the nation's public schools are yet to be managed in a way that lends itself to achieving those outcomes. This paper explains why, and what we can do about it. As business and education leaders, we are concerned that our schools are financed, budgeted, and operated using a system that no other organization would adopt, let alone emulate. For example, under No Child Left Behind, individual schools can be shut down if they fail to achieve certain test scores. But the principals of those schools typically cannot buy new supplies of copier paper without approval from central administrators. Similarly, logic suggests that schools with poor test results would be allowed to hire better teachers. But the structure of work rules in most teacher contracts gives teachers with experience (seniority) the right to pick where they work, allowing them to avoid the more difficult schools. Teacher pay structures are largely determined by seniority, rather than performance or market conditions. And most school districts do not have the basic data systems that would allow them to make rational investments or program decisions.

This statement addresses these and other problems related to public school finance—the system that governs public school resource allocation, budgeting, and management. While there are vested interests in both school administrations and teacher unions that oppose some of these changes, there are already signs of reform underway. We urge that the business community actively involve itself in pushing these reforms forward, in order to bring a new culture of cost-effectiveness and achievement to our nation's public schools.

ACKNOWLEDGMENTS

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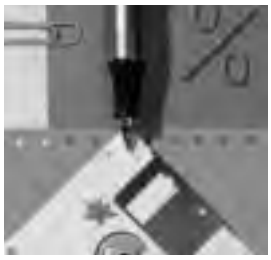
Chapter 1



INTRODUCTION AND SUMMARY

Every year the United States spends over $400 billion on its public elementary and secondary schools. K-12 education represents the biggest item in state and local budgets. Yet those financial resources are not managed in ways that encourage and reinforce efforts to improve educational outcomes. As a result, the massive American investment in its schools is not yielding the high level of student achievement that it should.

The Committee for Economic Development (CED) calls for transforming education finance so that funding policies are aligned with standards-based reform efforts to improve the nation's public schools. Money is a powerful motivator of behavior. Harnessing spending to school improvement strategies can help spur the systemic change needed to raise academic achievement. Redesigning funding policies—to use resources more effectively, to make teacher pay more reflective of labor market realities, to create incentives for improved performance, and to link funding levels to the costs of meeting educational standards—is an essential step in the process of transforming schools into high performance organizations.

Over the past two decades, America embarked on a campaign to improve public schools for all our nation's children. Educators slowly but unmistakably turned away from their traditional concern with inputs and rules to focus on the outcomes of schooling. States adopted standards-based guidelines for what students should know and be able to do. Policy makers worked at aligning various parts of the education system, including curriculum, teacher training, assessment, and accountability, to these standards. Legislators passed laws authorizing the creation of charter schools to encourage innovation and improve performance by breaking the historic link between public *funding* of public schools and government *operating* of those schools and by giving parents more choice over where their children are educated. Reformers recognized that many children enter kindergarten already at risk of future educational problems and pushed for wider preschool access to increase school readiness.

CED has urged such reforms in earlier reports[1] and continues to support the "steady work"[2] required to improve the massive enterprise of public education along many dimensions. In this report, we concentrate on the need to link the way schools are funded and managed to the education reform agenda.

WHY TRADITIONAL "SCHOOL FINANCE" NEEDS TO CHANGE

By "school finance" we refer to the array of policies and practices involved in raising, allocating, and spending public money for elementary and secondary education.

The idea that school finance is of more than local concern is a comparatively recent development. America's public schools emerged in the 19th century from local

private efforts to provide education and were initially locally funded and controlled. While the responsibility to provide education was explicitly added to state constitutions in the 19th century, states for the most part delegated this responsibility to local districts. As late as 1930, localities still provided over 80 percent of all revenues for elementary and secondary education, relying mostly on property taxes. Today the state and local shares are roughly equal. (An overview of school finance arrangements can be found in the Appendix.) While states have picked up a larger share of education costs, however, they have left many other aspects of school finance unchanged, leaving the system unsatisfactory in several ways.

A Focus on Inputs, Not Outcomes

Local funding for schools produced great disparities among districts, resulting from differences in local wealth. The history of school finance in the 20th century was largely a history of state efforts to reduce these disparities. Finance policy focused on determining dollar inputs and creating distribution formulas, not enhancing educational outcomes.

Funding decisions, therefore, were traditionally made with little attention to cost-effectiveness and the efficient use of resources. Financial accounting and reporting systems still mostly focus on districts, not schools, obscuring the link between the resources being spent on specific children and those children's learning and hindering efforts to determine where and how resources might be better spent. Principals not only lack data on their schools' resources but are seldom given significant control over their budgets, even though they are increasingly being held accountable for the performance of their students. These managers' ability to reallocate resources to what they believe are more effective uses continues to be severely restricted by allocation decisions made at the district, state, and even federal level.

Teacher Pay Misaligned with Labor Markets

Just as funding policies were largely divorced from consideration of educational outcomes and effective resource allocation, teacher compensation became increasingly divorced from labor market realities. Beginning early in the 20th century, states and/or districts adopted a so-called "single-salary schedule" to determine teacher pay. To end unfair salary policies (for example, paying women less than men or nepotism or favoritism), teachers are now paid only on the basis of their years of experience and the educational credentials and credits they have accumulated.

While the single-salary schedule ameliorated widespread abuses, it also left administrators with little ability to adapt to changing labor market conditions late in the 20th century. Widening employment opportunities ended schools' ability to rely on a captive labor force of women and minorities. At century's end, rising enrollments and the impending retirement of many teachers hired 30 to 40 years earlier to instruct the "baby boom" generation left many school districts facing increasing difficulties hiring the instructors they needed, particularly in high-demand fields. Rigid compensation policies continue to deny administrators the ability to use pay differentials to encourage teachers to teach in schools with hard-to-serve students, despite growing public concern over the educational disadvantages suffered by such students. Pay and pension policies were built on an assumption that teachers would spend their career in one place; they thus penalize mobile workers and hinder districts seeking to recruit teachers from areas with surpluses.

The Absence of Performance Incentives

Traditional school finance policies, by ignoring educational outcomes, provide no incentives for educators to improve their per-

formance. Teachers are paid and districts and schools receive their formula-determined share of state aid whether or not their students learn.

The twenty-year old campaign for standards-based reform and expanded public school choice options (like charter schools) has created some new incentives for schools to care about outcomes. States now report publicly on outcome measures such as test scores and promotion/graduation rates; some formally grade schools and apply rewards and/or sanctions to those who perform well or badly. In a few cases, these rewards include financial incentives (mostly based on group performance) that reward educators for improved student learning. New federal legislation (the "No Child Left Behind" Act of 2002) will force all states to identify low-performing schools based on state-set standards and to apply an increasingly extensive set of remedies to those receiving federal funds that fail to improve. The growth of charter schools has put pressure on traditional public schools to raise performance in order to keep their students. All of these developments are pushing schools to be more focused on outcomes than they used to be.

But finance policies do not go as far as they should to provide incentives for improved performance. Teacher compensation still reflects credentials and years of service rather than effectiveness in the classroom. Even where established, financial incentive programs are often cut back after a few years due to state budget problems, creating skepticism among educators about whether incentives are anything more than empty promises.

School finance policies continue to target school districts as the locus of school management; and most districts continue to favor funding only for traditional public schools, despite widespread dissatisfaction over the performance of the existing school "monopoly." In hopes of spurring innovation by freeing educators from many of the rules and regulations constraining public schools, reformers have called for new ways of providing publicly-funded education, most notably via charter schools. From the first 2 charter schools established in Minnesota in 1992, the charter school universe has grown to nearly 2700 in school year 2002-03.

Despite the growth of charter schools, however, few states have created a genuinely level playing field in financing new kinds of providers. School finance policies still favor a single dominant model for supplying public education and therefore either preclude or handicap reformers who seek to improve educational performance through nontraditional delivery mechanisms.

Funding and the Costs of Meeting Standards

Finally, per-pupil spending until recently was seldom compared to the costs of meeting educational standards. School budgets resulted from political bargaining over how much revenue would be available from tax receipts and how much would be devoted to education. Sometimes this left districts woefully short of funds to provide basic educational services. Outmoded state tax systems and their ability to keep up with demands for state services threatened to put added pressure on state funding for schools at century's end, even before the economic recession that began in 2001 threw states into their worst fiscal crises since World War II.

INCREASING THE RETURN ON INVESTMENTS IN LEARNING

Changes to align school finance policies with wider education reforms are beginning to occur, but in a slow and piecemeal fashion. More rapid progress must be made if the nation's school finance policies are to contribute to improving student achievement.

CED Trustees recommend the following changes in school funding policies and practices to improve the performance of the nation's public schools.

Allocate Resources More Effectively within Districts and Schools

Getting the most out of the nation's huge investment in education requires using available resources more effectively and efficiently. This demands (1) a new view of who should make spending decisions in the nation's 15,000 school districts and 90,000-plus schools, (2) budget processes that better reflect the differing educational needs of students, (3) more attention to the costs of educational choices, and (4) information systems capable of providing the data needed for good decision-making.

Authority over spending decisions should be devolved to the school level, in keeping with both good managerial practice and school-based accountability for student learning. Decentralized organizations have consistently been found to outperform centralized ones. Meaningful decentralization requires giving school principals actual control over their financial resources, so they can manage their resources according to their instructional priorities. Beyond the productivity benefits, decentralization will give principals the authority consistent with the accountability they now have under state laws and "No Child Left Behind."

The path to financial decentralization will take time to prepare. Most current principals have little or no background or training in the skills they will need to handle the new responsibilities that come with being the instructional and financial leaders of their schools. District personnel unaccustomed to decentralized management and accounting will also need to be trained for new ways of carrying out their duties and will need to develop procedures to account for school-level spending.

Districts should adopt a new approach to calculating school budgets that is based on individual students and their educational needs. Traditionally, school "budgets" are determined by allocating staff positions, not dollars. Staff positions are costed out at district salary averages. Since experienced, higher-salaried teachers typically exercise their seniority rights to move from low-performing schools with many high-need students to less-challenging assignments, schools with large numbers of educationally at-risk children have lower-salaried teachers but the same staff "budgets." These budgets thus result in the most needy students receiving less than their fair share of district resources. Student-based budgets that allocate funds to schools based on their student counts, weighted to take into account the special educational needs of some students (e.g., poor, disabled, gifted, vocational, English-language learners), can reduce or eliminate these inequities.

Cost-effectiveness must be a central criterion in resource allocation decisions. Education researchers and policy makers need to explicitly consider costs as well as expected outcomes when deciding among alternative resource uses. Given the impact of some education decisions, such as the one to reduce class size in all early elementary classrooms in California, the failure to carefully consider costs (both financial and nonfinancial) can lead to serious inefficiencies and unintended consequences.

Strong information systems must be developed and used to support planning, monitoring, and evaluation of resource use. Too many districts lack the data needed for responsible finance management. This has sometimes led to serious fiscal crises and loss of public confidence. In other districts, good data systems are undermined by organizational cultures that ignore fiscal discipline. Districts need to develop information on resource use at the school and classroom, not just the district, level so that spending and outcomes can be

linked. Districts also need examine whether their spending choices support their learning goals.

Align Teacher Compensation with Labor Market Realities

Teachers are the most important investment schools make in terms of both money and student learning. Education leaders must be given the ability to manage this crucial resource to address shortages and priority areas for improvement.

The single-salary schedule should be replaced with a more flexible compensation system that allows administrators to align pay with the realities of the teacher labor market. The much-heralded "teacher shortage" is not a generalized problem but one that disproportionately affects certain fields and schools. Right now, the most disadvantaged students have teachers with the fewest formal and informal qualifications. Administrators need the option of offering differential pay to attract teachers in high demand fields (e.g., math, science) and to provide incentives for better-qualified teachers to work in low-performing schools.

Because single-salary schedules have so thoroughly dominated teacher compensation, there is little research-based evidence on how different approaches to teacher pay might affect teacher quality, student outcomes, or teacher sorting among schools and districts. But there can be little doubt about the direction in which compensation should move. **All districts must begin to implement reforms such as pay differentials to attract strong candidates to teaching and to the schools and subjects where they are most needed.** Administrators will need to work with teachers and their unions to design and implement compensation policies that are market-driven and effectively targeted, since experience shows clearly that unilateral efforts to impose new pay plans on teachers are doomed to fail.

Policy makers also need to address transfer and pension policies that penalize mobile teachers, further handicapping districts facing difficulties attracting job candidates. Experienced teachers are generally given only limited credit on the single-salary schedule if they move to a new district. Defined-benefit pension plans, which base benefits on years of service and pay in the last few years of work, typically result in mobile teachers receiving lower pensions than if they taught for a full career in the same district or state.

Create Incentives for Improved Performance

School finance policies must incorporate performance incentives. Incentives have an important role to play in complementing federal and state accountability requirements.

The most obvious "missing" incentive in education is the disconnect between teacher pay and teacher performance. **Some portion of teacher pay should be linked to teachers' success in improving outcomes for students.** Teachers (and other educators), like other professionals, should be evaluated by how well they perform on the job, and some part of their pay should reflect this performance. Good teachers should be rewarded financially; ineffective teachers who are unable to improve should not only see poor performance reflected in their pay but ultimately should be removed from the classroom.

Three approaches show promise for linking pay and performance: group awards for school-level outcomes, knowledge-and-skills-based pay, and a linkage between pay and individual performance. Used in concert, all three approaches can bring desirable incentives into teacher compensation systems while minimizing the shortcomings of any one approach used alone.

Experience in both education and the private sector indicates that pay for performance must be approached with honest acknowledgment of the real challenges in implementing it. There is still much to learn about how to

structure such plans so that teachers accept them and students benefit from them. Advocates of wider use of pay-for-performance plans must be prepared to support the costs necessary to implement and sustain them; pay-for-performance should encourage teachers to become more productive, but it will not save money. In fact, it is almost certain to require additional spending.

These challenges are worth addressing, because knowing that effort and effectiveness will be rewarded will encourage strong candidates to enter teaching and effective teachers to remain in the classroom. We advocate continued experimentation with pay-for-performance plans that take into account teaching's special circumstances and the importance of encouraging joint as well as individual efforts on behalf of students.

A second approach to creating performance incentives requires more equitable financial treatment of public schools that utilize innovative school governance and management arrangements. New kinds of schools, such as charter schools, represent a break with the historic practice of directing public education funds only to traditional district-run schools.

CED Trustees support charter schools not only because they provide choices for parents but because of our long-standing concern that the overly-restrictive regulatory environment in which traditional schools are governed and managed stifles needed reforms. We believe that more equitable financial policies are needed to give charter schools a fair opportunity to succeed. These schools face a number of hurdles relating to operating expenses, start-up costs, and (most significantly) facilities costs that policy makers need to address. At the same time, charter schools must be held accountable for their use of public monies; and state legislatures should ensure that charter authorizers (school districts, universities, state boards of education, and others) have the financial and nonfinancial resources they need to carry out the important oversight responsibilities assigned by state law.

Fair funding policies for charter schools may be especially important for urban districts facing the most intractable education improvement challenges. Reformers impatient with the failure of traditional strategies to reverse decline and restore public confidence are in some cities now looking to networks of charter schools as the best hope for leveraging change. We will never know if charters can fulfill this promise unless we give them a chance to compete on a level playing field.

Link School Funding to the Costs of Meeting Education Standards

Even if our previous recommendations are enacted, state policy makers will still face the thorny question of whether the financial resources available to districts and schools are adequate to accomplish the objectives set for them. **Now that standards-based education goals and accountability have been adopted by both state and federal governments, policy makers have a responsibility to provide sufficient funding for schools and students to meet the new requirements.** This imperative intersects in some states with court mandates, where judges are using state constitution "education clauses" to require that public officials provide all students with an "adequate" education.

Linking funding levels to educational objectives is more easily said than done, however. It requires policy makers to address two tough challenges: how to determine what the public's education goals should cost and how to raise the revenues necessary to fund those costs. Thanks in part to the need to meet court requirements, analysts have developed several methods for linking costs and standards. These methods, while still crude, nevertheless represent an advance over previous budget-setting practices by giving policy makers tools for bringing explicit consideration of

the relationship between expectations and costs into budget debates. Finding ways to address the problem of outmoded tax structures that do not keep pace with public demands for services and that lead to harmful "boom and bust" cycles of program expansion and contraction will also be important in ensuring that states have the capacity to implement their educational goals.

PROMOTING SCHOOL FINANCE REFORM

School finance reform is politically difficult. It often shakes up the status quo and threatens the vested interests of individuals and groups who benefit from existing arrangements. It may require more spending, at least in some places. **Reforming education finance, like reforming education more generally, will require steady, focused pursuit of a coherent agenda over time to make a difference. Policy makers willing to make the needed changes need support from business leaders and others, not only in helping design effective policies but in maintaining the political backing necessary to defeat those who would return to business as usual. We call on our counterparts across America to work for the agenda laid out in this report and urge policy makers to adopt strategies that make good use of the nation's educational investments to help America's children achieve high learning standards.**

Chapter 2

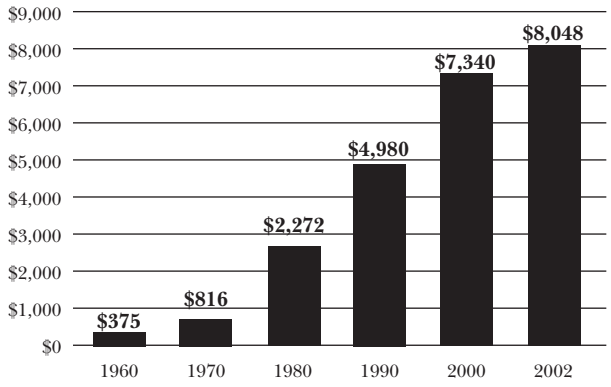
ALLOCATING RESOURCES EFFECTIVELY

In school year 2001-02, national spending on K-12 education amounted to approximately $400 billion, or an average of $8,048 per student. This represents a large increase over spending levels of 40 years ago. Inflation has of course eaten away at some of the apparent increase, though how much is uncertain given serious disputes over the proper way to make inflation adjustments in education.† Furthermore, schools have unquestionably taken on expensive new responsibilities (for example, to educate children with disabilities). Nevertheless, the financial resources available to schools are sizeable. (See Figure 1.) Whether they are sizeable enough to handle all that schools are

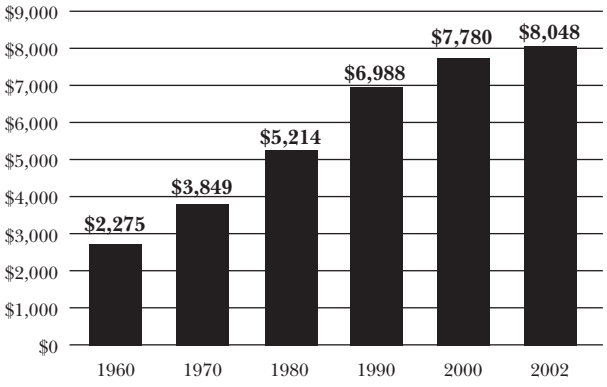
† Researchers disagree over the appropriate measures to use in adjusting education spending over time for inflation. The Consumer Price Index, used in the table here, reflects changes in prices of a market basket of goods typically consumed by households. Goods consumed by schools are quite different (e.g., the most frequently-consumed "good" is teachers). Using cost indices specifically designed to take account of the education sector's particular market basket of goods raises other questions, however (e.g., how to account for changes in teacher quality and in the labor market for teachers). While adjusting education spending by the CPI probably overstates the real growth in education spending, the resources available now to provide educational services are clearly higher than they were 40 years ago.

Figure 1

U.S. Public School Resources, 1960-2002
Current Expenditures[a] per Pupil (ADA)[b], Unadjusted Dollars



U.S. Public School Resources, 1960-2002
Current Expenditures per Pupil (ADA), 2001/2002 Dollars[c]



NOTE: 2002 values are estimated

a. Current expenditures do not include capital outlay and interest on school debt.

b. Average Daily Attendance (ADA) is determined by dividing the aggregate attendance of a school during a reporting period (normally a school year) by the number of days school is in session during this period.

c. Based on the Consumer Price Index, prepared by the Bureau of Labor Statistics, U.S. Department of Labor, adjusted to a school-year basis.

SOURCE: National Center for Education Statistics, *Digest of Education Statistics, 2002* (Washington, D.C.: U.S. Department of Education, June 2003), Table 166, p. 194.

currently being asked to do is a question we will take up in Chapter 5.

But are existing resources being used efficiently and effectively? We have identified a number of strategies to help educators and policy makers choose investments that will pay off in improved learning. There are no universally-applicable answers to how districts and schools should use their resources, but allowing school-level educators to control their budgets and making resource allocation processes and decisions more transparent are important steps in making effective decisions. In this chapter, we propose ways of making better resource allocation decisions: devolving spending to principals via student-based budgets; considering cost-effectiveness as well as educational benefits when selecting among alternative policies; and developing data to plan, monitor, and evaluate educational spending. In the next chapter, we will focus specifically on education's most costly resource: teachers.

DECENTRALIZING SPENDING AUTHORITY VIA STUDENT-BASED BUDGETS

Effective resource allocation depends on who has the authority to make spending decisions and the incentives they face. Business practitioners favor decentralizing decision authority and accountability; decentralized organizations have consistently been found to perform at higher levels than centralized ones.[3] School districts, however, mostly still operate through top-down, centralized management. While principals and other school-level educators are now being held accountable for improving the performance of their students, these individuals generally have little or no control over how their school's resources are spent. Their accountability is undermined when authority over spending decisions lies elsewhere.

Making Decentralization Real

Many school districts claim to have decentralized through some form of site-based management or local school council, but these reforms have largely failed to improve student performance. In fact, these reforms have mostly involved what William Ouchi has called "phony decentralization." Most crucially, they did not give school personnel meaningful control over their financial resources.[4] Moreover, many earlier site-based management reforms lacked clear performance incentives toward agreed-upon goals.[5] Today standards-based education and accountability supply the previously-missing enabling conditions under which real decentralization can lead to improved school performance.

Only a handful of districts have currently devolved spending authority to schools to any great degree. We urge school boards and superintendents to follow the example of and learn from districts such as Cincinnati, Houston, Milwaukee, Sacramento, and Seattle in giving schools control over their budgets.†

Giving schools control over the bulk of their budgets does not mean replacing district influence over instructional programs. Every school "doing its own thing" can be disastrous in large urban districts where large numbers of students frequently change schools and where academic performance levels are persistently low. Houston coupled meaningful resource decentralization with a project that aligned curriculum in four basic subjects with state standards and assessments. The district also replaced five different reading programs with a unified reading approach aligned with standards, in recognition of high student mobility and wide variation in teacher skills and experience. Subsequently, the district adopted a single reading program for grades

† American experience with meaningful decentralized spending authority is fairly recent. Therefore, many American districts have looked for valuable guidance to Edmonton, Alberta, Canada, which began its transformation in 1973 to a decentralized district with (now) over 90 percent of school budgets under their principals' control.

1-3, but exempted high-performing schools and schools that received permission to use other programs. Sacramento, too, combined decentralized spending authority with district-wide curriculum reforms aimed at bringing more coherence to the instructional program.[6]

Spending authority cannot be devolved to schools overnight. As will be discussed later, new budgeting and financial tracking systems have to be developed. A host of operational details must be decided (for example, how to adjust funding levels when enrollments change during the year, or how to budget for central office services). District and school personnel must be trained to use the new systems. Principals and teacher leaders also need to learn how to link their new control over spending decisions to their instructional priorities.[7] Principals need to develop new kinds of leadership skills for their new roles as instructional and financial leaders of their schools. (See text box, "Business Helps Principals Develop Leadership Skills.") Each district will have to decide whether schools will be required to continue using some central services, or whether they will be given dollars instead and allowed to choose between purchasing services (such as maintenance or professional development for teachers) from the district or contracting from a private provider.

"Student-Based" Budgets

Effective and equitable implementation of decentralized spending authority requires a new approach to calculating school budgets, replacing "staff-based" with "student-based" formulas. Most districts allocate resources to schools based on an allowed number of staff positions, not dollars. In contrast, student-based budgets calculate school allotments on the basis of the number of students enrolled. **We urge that decentralized spending authority be coupled with student-based budgets, to give individual schools the flexibility to allocate resources in accordance with their instructional priorities, as well as to reduce or eliminate inequities in staff-based budget formulas that have gone largely unrecognized until recently.**

Published district budgets for individual schools (if they are available) differ significantly from the resource allocation patterns found when researchers build real-dollar budgets from the ground up, using actual salary and benefit rates (rather than averages) for the staff members assigned to particular schools. Districts that believe they are spending equitably from school to school find out that the reality is quite otherwise. There are significant differences in funding among schools in the same district, and the schools

BUSINESS HELPS PRINCIPALS DEVELOP LEADERSHIP SKILLS

Principals taking on new levels of responsibility for managing their schools can benefit from the experience and expertise of business leaders. This is the premise behind the Partnership to Advance School Success (PASS) program in Florida. PASS pairs senior corporate executives with individual school principals; a professional educator who serves as an instructional coach is also part of the team. The CEOs mentor the principal for three years, using their knowledge of how to run efficient, focused organizations to help improve public education. One program administrator says, "We are trying to get a new mindset for the principals. They are CEOs. They are running large organizations. They need to be empowered to make decisions." Currently principals in 29 schools are participating in the PASS program.

SOURCE: Nancy Dunne, "An Experiment in Empowering Education," *Financial Times*, October 17, 2003. Information on PASS available online at www.educationchange.com/PASS/about.htm

hurt most are often those most in need of resources.[8]

Districts typically allocate resources to schools mainly through formulas that allot each school a certain number of staff positions based partially on enrollment and partially on other factors. These formulas are relatively insensitive to differences in educational needs among the students enrolled at different schools. They also lead to rigidities (such as difficulties in "trading off" staff positions for other uses) that interfere with schools' ability to implement reforms that call for different patterns of expenditures than those authorized by the staff-based budget. In addition to their formula allocations, schools receive services from the central office, but most districts do not track how central-office budgets affect individual schools. Between 40 to 60 percent of districts' general funds are used for these central services and do not appear in school budgets.[9]

Student-based budgeting,† by contrast, allocates dollars to schools based on the number of students enrolled, weighted to take into account the special educational needs of various categories of students (e.g., poor, disabled, gifted, vocational, or English-language learners). Such budgets have a number of advantages. By increasing intradistrict equity, they remove excuses for poor performance on the part of once-underfunded schools. They help illuminate the relationship between spending and student achievement by linking resources as closely as possible to the individual student. By making allocations for individual students transparent, they help leaders allocate resources to meet identified needs and goals. They encourage schools to keep students, including those they might otherwise shun. At the same time, they make it easier to implement public school choice programs, such as magnets and charter schools.

Cincinnati and Houston are among a handful of districts that are in the early stages of implementing student-based budgeting. Each district has discovered that interschool funding levels differed dramatically under traditional approaches. In Cincinnati, there was a per pupil disparity of more than $6,000 between its least-funded school and its highest-funded school (less than $4,000 versus more than $10,000 per pupil). Lesser but still substantial disparities existed district-wide. Houston discovered similar patterns, though with less variance. When these districts began moving from their traditional staff-based formulas to new student-based budgets, they saw significant increases in interschool equity.[10] Figure 2 shows that, as student-based budgets were introduced, actual school budgets in each city began to cluster more tightly around the hypothetical funding each school would receive if it were given the district's average allocation of money for each category of student at the school (i.e., the school's weighted average expenditure).

Accounting for Teacher Salaries

Disparities among schools within districts would appear even more dramatic if the effects of another traditional practice—using average rather than actual salaries in school budget calculations—were more widely recognized. Districts typically cost-out each position in a school at the average salary level for that position in the district. This is true even in districts such as Cincinnati and Houston that have moved to student-based budgeting.

Using average salaries instead of actual salaries grossly distorts the resources being spent in each school because, as we shall see in Chapter 3, teachers with different levels of seniority and salary do not distribute themselves evenly across schools, even within the same district. Schools with more minority and poorer children typically have only a few applicants for each open position and generally end up with the least experienced teachers in the district. More advantaged schools often have many more applicants (including teachers using their seniority rights to transfer

† Also sometimes called "weighted student funding."

Figure 2

Increases in Funding Equity with Student-Based Budgeting

		Percent of schools with actual budget allocations within	
		5% of what the school would have received using weighted average expenditure[a]	10% of what the school would have received using weighted average expenditure[a]
Houston	Last year using a staff-based formula	**49%**	**77%**
	First year implementing a student-based formula	**72%**	**82%**
Cincinnati	Last year using a staff-based formula	**23%**	**42%**
	First year implementing a student-based formula	**23%**	**49%**
	Fourth year implementing a student-based formula	**87%**	**97%**

a. The weighted average expenditure is what the district would allocate to a school if the school received the district's average allocation for each category of student at that school. The weighted average expenditure for each school is calculated by, first, multiplying the total number of students in the school by the district's basic per pupil allocation. Second, the district's average additional expenditure per pupil in a weighted category (e.g., bilingual students) is multiplied by the number of students in that category at the school. The result is added to the first quantity. This second step is repeated for each weighted category to be analyzed.

SOURCE: Annenberg Institute for School Reform at Brown University: School Communities that Work Task Force, *First Steps to a Level Playing Field: An Introduction to Student-Based Budgeting* (June 2002), available at <http//www.schoolcommunities.org/images/SBB.pdf> Accessed July 9, 2003.

out of less attractive schools) and thus have more room to select the teachers they think will be the most effective. Schools with the most applicants choose more expensive senior teachers, as indicated by the higher average salary levels found in these schools.[11]

High-poverty, low-performing schools get hurt by the practice of averaging salaries because they employ disproportionately more inexperienced and inexpensive teachers and are not allowed to keep the difference to spend for other uses (e.g., lower class sizes) that might help them compensate for their handicaps in recruiting. Marguerite Roza and Paul Hill[12] studied actual teacher salary costs in four districts: Baltimore City Schools, Baltimore County, Cincinnati Public Schools, and Seattle Public Schools. Average teacher salaries at the school level differed widely from district averages. (See Figure 3.) For example, in Baltimore City, with a district-wide average salary of $47,178, one elementary school had an average salary of $37,618. Similar results were found in the other three districts. In each district, high-poverty, low-performing schools routinely were staffed with teachers earning below-average salaries.

We urge education and community leaders to end inequities and inefficiencies in the current approaches to school-level funding by using actual rather than average salaries in their calculations. We acknowledge that there are many challenges that must be addressed in making this change. Perhaps the biggest is political: there will be winners and losers, especially in an era of economic stringency; and it will take strong voices in favor of improved budgeting to counter the forces of self-interest. We note that the Houston school board, the only one that had made a commitment to moving to the use of actual rather than average salaries over a five-year period,

Figure 3

The Impact of Salary Averaging in Four Districts

	Baltimore City	Baltimore County	Cincinnati	Seattle
Average gain or loss in school budget if actual rather than average salaries had been used to calculate school budget	**(+/-) $101,786**	**(+/-) $120,612**	**(+/-) $106,974**	**(+/-) $72,576**
Average gain or loss per pupil	**(+/-) $246**	**(+/-) $232**	**(+/-) $189**	**(+/-) $144**
Average percent impact on each school's budget	**5.9%**	**6.5%**	**5.9%**	**4.9%**
Maximum benefit as percent of the school's budget	**21.8%**	**17.7%**	**15.6%**	**11.0%**
Maximum loss as percent of school's budget	**-20.8%**	**-18.4%**	**-19.2%**	**-21.8%**

SOURCE: Marguerite Roza and Paul T. Hill, "How Within-District Spending Inequities Help Some Schools to Fail" (a draft conference paper for the Brookings Conference on *The Teachers We Need*, May 2003), available at <http://www.crpe.org/working-papers/pdf/Roza-Hill.pdf> Accessed October 30, 2003.

reversed itself in the spring of 2003 and tabled the controversial policy for fear of angering parents, prompting "white flight," and (in the view of opponents) contributing to achievement declines in better schools.[13]

How State and Federal Policy Makers Can Help

We urge state and federal policy makers to review and modify their policies that contribute to budget inflexibility and inequity within districts.

States often have instructional and/or collective bargaining rules that restrict schools' ability to shift resources and rearrange the use of teacher time. State and federal categorical programs (which together number over 100 in a state like California) further limit school discretion. State collective bargaining laws that permit teachers to select their schools based on seniority also contribute to the inequitable allocation of teachers across schools. Some states pay districts on a weighted per-teacher basis, paying more for senior teachers than junior ones, but not requiring districts to distribute the state money equitably among students.

Title 1 of the federal Elementary and Secondary Education Act† (designed to provide additional resources for schools enrolling disadvantaged students) has since the early 1980s permitted districts to average teacher salaries when meeting the federal requirement that district funds be distributed equitably before federal funds are allocated. As a result, as long as inequities in district funding policies are driven by teacher allocations they are not in violation of the federal law.[14]

We urge the federal government, when it next reauthorizes Title 1, to require districts to calculate spending using actual, not average, teacher salaries. Such a provision was supported by a bipartisan coalition during the last reauthorization but was not included in the final act.

† The most recent reauthorization of the Elementary and Secondary Education Act of 1965, enacted in 2002, was given the name "No Child Left Behind."

CONSIDERING COST-EFFECTIVENESS

A key aspect of effective resource use that is often ignored in education is cost-effectiveness.† Too often decisions about such things as class size or teacher deployment or curriculum purchases, if they involve analysis at all, take into consideration only the expected effects on outcomes and not the expenditures required for each increment of improvement. Cost-effectiveness analysis seeks to determine which of two or more programs will achieve either the most improvement for a given expenditure or the lowest cost for a given level of improvement.[15]

We urge researchers to incorporate cost considerations in their studies, and we encourage educators to examine costs as well as benefits when deciding which programs to adopt or keep. Studies have shown that education policy research does not commonly use cost analysis as one of its tools; such analysis is less likely to be found in education research than in evaluations in other policy fields such as health care.[16] But even less formal assessments of costs relative to expected student learning outcomes would be better than the current situation where program costs are often ignored altogether or not evaluated against the costs and expected learning outcomes of alternative policy choices.

The consequences of failing to consider cost-effectiveness when making resource allocation decisions can be seen in recent experiences with class-size reduction programs. Reducing class size is a popular step with parents and teachers, and its appeal to policy makers has been enhanced because its effectiveness in improving student learning appears to be supported by research. Benefits from smaller classes were found in one of the few large-scale random-assignment experiments ever conducted in K-12 education, the Tennessee Student/Teacher Achievement Ratio (or STAR) study. (See text box, "Project STAR.") Many states and districts have jumped on the small-class-size bandwagon, most notably California, whose elementary schools in the mid-1990s had the largest class size in the country (averaging 29 students). In 1996 a Republican governor and a Democratic legislature joined in support of a state-wide initiative providing districts with $650 per student for each kindergarten through third grade classroom with 20 or fewer students.††

Reducing class sizes is a very expensive policy option. California's class size reduction program cost the state approximately $1 billion in the first year and rose to $1.6 billion annually within a few years. At the time of its adoption, no consideration was given to what alternative uses this large expenditure might be put. Some analysts suggest that variations in teacher quality are much more significant than class size variations in improving student achievement,[17] raising the question of whether investments in improving teacher quality would yield greater returns than class size reduction. Similarly, the presence of disruptive students in a classroom negatively affects their own and their peers' learning. It might be possible to find ways of bringing discipline and attentiveness to classrooms that would result in the same learning benefits as more expensive class size reduction programs.[18]

California's experience with class size reduction also illustrates why it is important to consider costs that are not strictly financial when weighing the desirability of a policy change. Class size reduction was associated with declines in teacher qualifications and a more inequitable distribution of credentialed teachers because of the large number of new teachers required to staff the smaller classes.

† Cost-effectiveness is used here instead of cost-benefit because cost-benefit analysis usually expresses both inputs and outcomes in dollar terms, and the latter is seldom possible in education. Cost-effectiveness analysis allows outcomes to be expressed in such forms as achievement test scores or graduation rates.

†† Districts received the $650 if they first reduced all first grade classes in a school, followed by all second grades and finally by either kindergarten or third grade classes.

PROJECT STAR

Project STAR was a $12 million research project conducted in and funded by the state of Tennessee. It began in 1985. It explored the question of whether small class size in the early grades could improve student achievement. Students in selected schools were randomly assigned to either a small class (13-17 students), a regular class (22-26 students), or a regular class with a full-time aide as well as a teacher. After 4 years (kindergarten through third grade), all children in the study were returned to a regular size classroom. Academic achievement was tracked for students while they were in the study and for several years after they returned to regular classrooms.

Many analyses have been conducted of the STAR data, and not all researchers agree on all the results. In general, though, STAR suggested that there were achievement benefits for students in small classes and that the benefits were larger for minority students than for others. There were no benefits for students in regular classes with aides compared to regular classes without aides.

The proportion of K-3 teachers without full credentials rose from 1.8 percent before the program started to 12.5 percent in the second year of the program. Disadvantaged students suffered most from the growth in uncredentialed teachers, because their schools were slower to implement class size reduction and more qualified teachers had already been hired elsewhere. Since operating costs for class size reduction generally exceeded state payments for it, districts also took money from other programs such as professional development, computer programs, and libraries and reduced funds for facility maintenance and administrative services.[19] These tradeoffs were not necessarily unwise from the standpoint of improving student achievement. The point is that the decision about class size reduction was taken without weighing its benefits against the effects on learning of things that would have to be given up.

DEVELOPING DATA TO PLAN, MONITOR, AND EVALUATE

Every competent organization uses information as feedback to improve its production processes. Educators have lagged in using data to improve instructional processes, in no small measure because relevant and timely data were often absent, but also few incentives existed to use data to improve student learning.

The accountability movement in education and new requirements in the "No Child Left Behind" Act relating to school performance, teacher quality, and research-based education strategies are pushing education toward building better information systems. Improving the data infrastructure, though, involves "unsexy" and comparatively invisible investments that are easy to neglect in tough budget times. **We urge education leaders to develop the sound information systems required for effective resource allocation and to foster an organizational culture that makes good use of the information such systems provide.**

Tracking money for schools is not an easy task. As the Appendix shows, education dollars come from many sources (federal, state, and local governments, as well as nongovernmental sources), each with separate record-keeping requirements and accounting rules. Districts, therefore, maintain multiple accounting systems and often keep information on separate computer systems that cannot communicate with one another. Similarly fragmented approaches characterize expenditure systems. Thus district personnel often cannot find out basic things about their spending, such as what particular central office services cost.[20]

The immediate financial consequences, to say nothing of the consequences for student learning, can be high when information systems are inadequate. Antiquated information

technology used for financial tracking is blamed by many district leaders for a rash of budget errors that have found both large and small districts suddenly dealing with big budget shortfalls. Systems for tracking employees have broken down in a number of places, leaving district leaders with inaccurate information on the number of positions on the payroll. Districts may track money and people with different systems that are not well-linked.[21] Failures in systems that track the number of students enrolled can cost districts big money, since many state subsidies are awarded on a student headcount basis.

Budget management problems that might have caused only minor headaches in more robust economic times turn quickly into crises when revenues are simultaneously falling short of expectations. Thus Oakland, California, for example, found itself over $80 million in debt in 2003, costing the school superintendent his job in June and causing the state to impose a state-appointed administrator as the price of a $100 million emergency state loan. Seattle's superintendent in April 2003 announced plans to resign, facing criticism over fiscal mismanagement because of a budget shortfall of $23 million in the 2001-2002 school year, with another $12 million deficit projected for 2002-2003.

While outdated and incompatible information technology is a real problem in many districts, the Seattle situation demonstrates that even good information systems cannot save a district from undisciplined financial business practices. An external audit gave the system high marks for the quality of its financial and personnel management software.[22] The audit, however, also presented evidence of managerial failings that led a school-board-appointed Committee for Fiscal Integrity to conclude: "Improved financial business practices will not alone eliminate the risk of financial crises unless accompanied by a reform of the District's organizational culture. The culture emanating from the Board and Superintendent must reinforce discipline with regard to fiscal matters. Currently the business culture supports work-arounds, short-cuts, and optimism unfettered by facts."[23]

Districts without sound information systems and a culture that encourages data-driven decision-making are unlikely to allocate resources effectively to enhance student achievement. Principals and teachers need feedback on how resources are related to the learning being produced within individual schools and classrooms, in order to know which financial investments are paying off and which need to be redirected. Financial reporting systems, however, often make it difficult or impossible to link resource use and student outcomes. School finance systems generally report revenue sources and expenditures at the district level. These reports do not allow resource use to be linked to instructional programs and practices at the individual school, classroom, or student level. Although some districts have made significant progress in recent years in developing school-level budgets, we saw earlier that current financial reports often give quite inaccurate information about the actual resources being used at individual schools. Even accurate and current data are seldom presented in usable and easily understood formats that allow policy makers, educators, parents and others to explore how program costs and student learning are related.

Along with developing better data on school and classroom use of resources, educators need to more carefully examine how they deploy the resources they have available. Districts willing to drill down into their current spending patterns may well find that they can make far better use of their existing resources to support important learning goals. In 1999, for example, the Boston Public Schools district conducted an unprecedented analysis of its professional development (teacher training) budget to find out what was being spent and how. The district discovered

that it was spending about 4 percent—a respectable $23.4 million—on professional development. It expected to find most of these funds focused on its key reform strategy: in-school coaching to improve instruction. Instead, it learned that only $5 million was integrated into this effort. The findings enabled the district to make a number of changes to reallocate resources and reinforce activities that support the district's reform effort. Based on Boston's experience, Chicago decided to launch a similar audit.[24]

New sources of information designed to help states, districts, and schools "think smarter" about their resource allocation decisions are becoming available. We recommend that policy makers and educators routinely utilize resources such as the National Center for Educational Accountability and the What Works Clearinghouse as part of their planning and evaluation activities. (See text boxes, "National Center for Educational Accountability" and "The What Works Clearinghouse.")

THE NATIONAL CENTER FOR EDUCATIONAL ACCOUNTABILITY

The National Center for Educational Accountability promotes the use of student performance data to improve schools. The Center, a collaborative effort of Just for the Kids, the University of Texas, and the Education Commission of the States, uses data as the linchpin of a strategy for school improvement. The Center has developed methods of linking individual student records over multiple years to permit each school in a state to be "benchmarked" against the highest performing schools in the state that have comparable student populations. Individual school analyses can be viewed at www.just4kids.org. The Center also uses these data to investigate instructional strategies that distinguish high-performing schools and is developing training programs to provide educators, parents, business leaders, and policy makers with the findings from its work.

In September 2003 the federal government and the Broad Foundation announced they would fund about half of a planned two-year, $60 million project in which the Center will joint with Standard and Poor's School Evaluation Services to provide an Internet warehouse of student achievement and other data collected under the No Child Left Behind law. The project aims to post every state's school-level test-score data along with information about the financial resources available at each school.

THE WHAT WORKS CLEARINGHOUSE

The WWC was established in 2002 by the U.S. Department of Education's Institute of Education Sciences to improve the quality of education by providing educators and policy makers with the results of high-quality scientific research on effective programs, practices, and products. Modeled on an approach used for some time in medicine, the WWC addresses the need to help decision makers identify topics on which solid research evidence exists and sort through the completing claims and conflicting interpretations about research findings that contribute to confusion about what works in education.

The WWC will develop standards for reviewing and synthesizing educational research and will provide its findings in free, searchable, and user-friendly databases. Information about the WWC, its evaluation protocols, and the results of its reviews can be found at www.w-w-c.org

Chapter 3

TEACHER PAY AND THE TEACHER LABOR MARKET

Effective resource use is nowhere more important than for education's major resource: teachers. As noted earlier, teachers are schools' key investment, and effective teachers contribute substantially to students' academic achievement. To improve student learning, therefore, educators need the ability to manage this crucial resource.

The dominant form of teacher compensation—the single-salary schedule—fails to reflect the realities of the teacher labor market. It handicaps managers in competing for talented women and men to teach. This handicap is particularly troublesome for urban districts, exacerbating their difficulties in attracting teachers to work in schools with comparatively poor working conditions and many hard-to-teach students. The inflexibility of the single-salary schedule also severely limits the pool of teachers available to fill jobs in some fields of study and some schools.

Attracting and keeping effective teachers is a challenge that cannot be addressed just by redesigning compensation. Many other changes are needed: improved teacher preparation programs; more widespread use of alternative routes to teacher certification; improved information on supply and demand projections by field; streamlined hiring practices by schools and districts; better mentoring for new teachers to reduce costly turnover in the earliest years of teaching; and improved working conditions and a supportive management climate for all teachers.

Nevertheless, **CED believes that the time has come to modernize how teachers are paid.** Compensation policies must reflect the realities of the labor market in which schools recruit and the need to attract teachers to serve the nation's neediest students. This chapter focuses on ways to improve managers' ability to recruit and retain qualified teachers for all schools and subjects by changing the way teachers are paid. The next chapter examines the question of whether some part of teacher pay should be tied directly to the teacher's measured success in improving student learning.

LABOR MARKET CHANGES AND THEIR IMPLICATIONS FOR COMPENSATION

One challenge facing school administrators seeking to hire and retain teachers is that they can no longer count on the captive workforce that existed when women and minorities had few other employment opportunities. The impact on education of new labor market realities was initially blunted because the "baby bust" of the 1970s and 1980s reduced the need for new teachers. Worries about teacher shortages emerged in the 1990s, however, as enrollments rose, labor markets were tight, and districts began focusing on the pending retirement of many teachers who were hired 30 to 40 years ago to instruct the "baby boom" generation. While stagnant economic conditions in the early years of the new century and slowing enrollment growth have relieved the hiring situation somewhat, short-

ages may again become a pressing concern when the economy improves and as "baby boom" teachers reach retirement age.

Is Overall Pay Too Low?

Teacher organizations and others argue that overall teacher salaries must be increased if schools are to attract the high quality workforce education reformers want. **Our review of the evidence leads us to conclude that the case for overall salary increases is mixed, but that there are persuasive arguments in favor of pay increases for some teachers. This includes teachers in districts whose salaries are demonstrably uncompetitive, teachers who are willing to serve in hard-to-staff schools or who have specialties that are in short supply (such as math and science), and (as we will argue in the next chapter) those who perform well on the job.**

The majority of teachers—now 75 percent—have been and continue to be women. The opening of many traditionally male occupations to women in the latter third of the 20th century gave female prospective teachers many other employment options. At the same time, the comparative financial attractiveness of teaching was diminished by a decline in teacher earnings relative to nonteachers, especially for women, over the period 1940-1990.[25] Similar patterns prevailed for minorities, complicating the task of school districts seeking to hire more minority teachers to better reflect the diversity of student bodies.

Also troublesome for schools are the dramatic salary increases enjoyed over the past 40 years by highly educated workers, particularly those with technical backgrounds in science and math. These highly skilled individuals have seen their pay increase both absolutely and relative to less educated workers, adding to the pressure on schools seeking to hire teachers for science and math classes.[26]

Advocates of higher overall teacher salaries often cite statistics to show that average teacher salaries and average starting salaries are substantially lower than those in other job categories. These data are difficult to interpret, however. First, the choice of jobs used for comparison purposes is open to question. Should teachers be compared to accountants and computer systems analysts and engineers and attorneys or to journalists, registered nurses, FBI agents, and military officers? Second, teachers work a shorter day and shorter year than many other workers; typically teachers are paid for 9- or 10-month school years and on-site time required by union contracts is sometimes 7 hours or less daily. Third, the benefits teachers enjoy (especially their medical and retirement plans) are often better than those of many private-sector workers. Finally, some nonteaching occupations have many more high earners than does teaching, thus skewing the averages. Michael Podgursky found significant pay gaps between teachers and nonteachers for recent college graduates with bachelor's or master's degrees when looking at averages: a 32 percent advantage overall for nonteachers versus teachers. Median earnings, however, were only 10 percent higher for the nonteaching group, a gap he argues is readily explained by the shorter workday and workyear for teachers.[27]

Moreover, it is difficult to "monetize" the value teachers place on teaching jobs because of the flexibility they gain to balance work and family responsibilities. The hours at school are short compared to most office hours and match the hours children are in school; teachers can be home during their children's summer vacation; substitute teachers can be arranged when the regular teacher's children are sick; and the job requires little or no out-of-town travel. By contrast, many of the "new jobs" that have opened to women in the last 40 years are managerial and professional positions rather than the clerical positions that dominated among college-educated women who weren't teachers in 1960. The greater time requirements, responsibility, and stress of these "new job" arguably offset some of the comparative salary disadvantage that was mentioned earlier.[28]

None of this is to say, however, that teacher pay is in all cases adequate or that salaries do not matter to schools' ability to attract and keep teachers. Over 40 years ago, economists Joseph Kershaw and Roland McKean noted that shortages in specific areas, such as math and science teachers, resulted from uniform pay practices that failed to recognize the non-teaching opportunities open to individuals in certain disciplines.[29] Subsequent research has shown that salaries make a difference in teachers' decisions to enter the profession, move across schools and districts, and leave teaching altogether.[30]

In this diverse, decentralized nation of nearly 15,000 school districts, salaries vary widely. Some systems undoubtedly need to raise the general level of teacher pay to compete effectively in their local labor markets. Oklahoma, for example, raised its teacher salaries by $3,000 in 2000, after finding it was losing many teachers to Texas districts where salaries were higher.[31] In a recent New York court case about whether the state was meeting its constitutional responsibilities for financing education in New York City, both plaintiffs and defendants presented evidence that the city is at a comparative disadvantage in its labor market for teachers. The city competes mainly with four surrounding suburban counties for instructors but pays teachers at all levels of experience substantially less than teachers earn in those counties, while offering less attractive working conditions.[32]

The effect of raising overall pay in most places, however, is arguable. Increasing salaries for all teachers would be an expensive proposition and its effect on teacher quality unclear. It is a blunt tool, rewarding effective and ineffective teachers alike. Teacher turnover, often cited as one indicator that higher salaries are needed, is actually not very high after the first few years of teaching.[33] Raising *starting* salaries might improve the pool of candidates from which new teachers are drawn; but research suggests that hiring practices would have to change as well, because many districts appear to do a poor job in selecting teachers from that pool.[34]

Most importantly, across-the-board salary increases would not address the two clearest problems in the teacher labor market: the difficulty of hiring teachers in some fields and disparities among schools in the characteristics of their faculty.

Teacher Pay and Teacher Shortages

Difficulties in hiring teachers in high-demand subjects and specialties have been observed since at least the time of the Kershaw-McKean study cited earlier (for recent views, see Figure 4). The Southern Regional Education Board notes that states have historically prepared too few graduates in mathematics, science, and special education (the latter field denotes teachers who work with students with disabilities).[35] Math and science graduates often have attractive opportunities outside teaching. As a result, the proportion of mathematics and science teachers who are not fully certified to teach those classes is higher than in other subjects, and there is evidence that teacher quality is lower. For example, among New York public school teachers outside of New York City, failure rates for math, chemistry, and physics teachers who have taken the New York Content Specialty Certification Exams in their subjects areas one or more times were 21 percent, 15 percent, and 32 percent respectively. By contrast, failure rates on the English and social science tests were two percent and six percent respectively. (Failure rates in New York City showed the same pattern across subjects but were substantially higher.)[36]

In light of the new national goal to "leave no child behind," it is especially disturbing to find that the most disadvantaged students have teachers with the fewest formal and informal qualifications. These students attend schools that often face much greater difficulty filling their teaching job openings than other

Figure 4

School Administrators' Assessment of Difficulty in Filling Vacant Teaching Positions

	How difficult or easy was it to fill the vacancies for this school year in each of the following fields?				
	(1) Easy	(2) Somewhat Difficult	(3) Very Difficult	(4) Could Not Fill Vacancy	(5) (3) + (4)
Elementary Education	**67.6%**	**26.2%**	**5.5%**	**0.7%**	**6.2%**
Special Education	**25.5%**	**35.8%**	**32.8%**	**5.8%**	**38.6%**
Math	**29.0%**	**34.8%**	**33.3%**	**2.8%**	**36.2%**
Biological Science	**34.0%**	**38.5%**	**26.2%**	**1.3%**	**27.5%**
Physical Science	**31.7%**	**35.7%**	**30.2%**	**2.4%**	**32.6%**

SOURCE: Michael Podgursky, *The Single Salary Schedule for Teachers in K-12 Public Schools* (discussion paper prepared for the Center for Reform of School Systems, August 14, 2002), Table 2.

schools in the same area. This situation stems from the reality that teachers prefer to teach in high-performing schools with lower percentages of minority students and children in poverty, and, under most union contracts, can exercise these preferences through seniority-based transfer rights. Uniform salaries within districts give them no incentive to do otherwise.

Using an unusually detailed New York State database on teachers, Susanna Loeb found that much of the variation in teacher qualifications occurred within rather than across districts. Disadvantaged students are apt to attend schools whose teachers have no more than a B.A. degree, have undergraduate degrees from less-competitive colleges, score lower on various teacher tests, and have less than full certification. [37] Similar results have been found in other states and for other measures of teacher quality. A Texas study found that teacher mobility is much more strongly related to the characteristics of students, particularly race and academic achievement, than to salary.[38] The researchers note that they cannot be sure whether these findings result from factors such as poor working conditions, which correlate with student characteristics. From the students' point of view, however, the consequences—less qualified teachers—are the same.

On balance, it *is* not clear that the overall level of teacher pay has led to a general decline in the quality of teachers or to problems attracting an acceptable pool of candidates to teaching. But it *is* clear that current pay policies deny administrators the ability to manage teacher resources to address shortages and priority areas for improvement. CED believes that the structure of teacher pay must be reformed.

This is by no means a novel recommendation, but it is one that has proven to be surprisingly hard to implement. The status quo suits many teachers, who have the political strength to defend their preferences. Business leaders and other interested citizens must therefore support legislators and school boards in efforts to institute pay reforms.

APPROACHES TO TEACHER PAY

Teacher shortages and disparities in how teacher resources are allocated across schools are symptoms of an outmoded pay structure unique to education: the single-salary schedule. Even the federal government's white-collar pay system, the General Schedule, widely criticized for its rigidities, allows for more flexibility and experimentation than the typical single-salary schedule used to set most teacher pay.[39] Flexibility and experimentation are needed in education to make teacher pay more market-driven.

Pros and Cons of the Single-Salary Schedule

The single-salary schedule is a grid for calculating teacher pay that reflects just two teacher characteristics: number of years of experience and number of credits and degrees earned. Figure 5 shows an illustrative schedule, with steps representing years of service and, within each step, salary levels keyed to degrees and additional credits.[40] Districts (and sometimes states) set these schedules, so the particulars (such as how quickly salaries rise or how long it takes to reach the top salary level) vary from place to place. Teachers may earn supplements above the schedule amount, usually by taking on additional jobs, such as coaching an athletic team, advising a school club, or taking on instructional leadership positions. Figure 6 shows that almost all public school teachers are paid according to a single-salary schedule. Most charter schools and private schools also used such schedules, though the percentages are significantly lower. Moreover, research suggests that charter and private schools adhere less rigidly to

Figure 5

Typical Teacher Single-Salary Schedule, 1999-2000

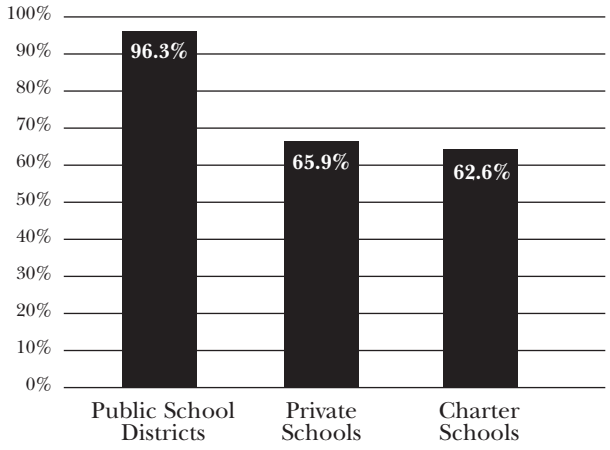
Step[a]	Bachelor's	BA+15	Master's	MA+15	Doctor's
1	$29,885	$30,421	$32,884	$34,662	$37,661
2	31,793	32,326	34,770	36,548	39,547
3	33,141	33,677	36,420	38,195	41,197
4	34,512	35,048	37,768	39,547	42,547
5	36,677	37,213	39,675	41,454	44,452
6	38,304	38,839	41,561	43,337	46,338
7	39,932	40,468	43,466	45,245	48,243
8	41,839	42,375	45,652	47,431	50,429
9	44.023	44,559	48,095	49,872	50,872
10	46,467	47,002	50,815	52,594	55,592
11	49,165	49,700	53,792	55,570	58,571
12	52,457	52,993	57,084	58,863	61,861
13	54,606	55,142	59,212	60,990	63,989
14	56,229	56,755	60,834	62,613	65,611

a. Steps 1 – 10 each represent one year of service. Starting with the 11th year of service, annual step increases are replaced by longevity steps; steps 12, 13, and 14 are payable upon completion of four years of service in steps 11, 12, and 13, respectively.

SOURCE: Alan Odden and Carolyn Kelley, *Paying Teachers for What They Know and Do: New and Smarter Compensation Strategies to Improve Schools*, 2nd ed. (Thousand Oaks, CA: Corwin Press, 2002), p. 10.

Figure 6

Percentage of Districts/Schools Using Salary Schedules for Teacher Pay: 1999-2000



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Schools and Staffing Survey*, 1999-2000 (Washington, D.C.: NCES, 2002)

the schedules and exercise more discretion when setting the pay of individuals.[41]

While teacher unions are today's staunchest supporters of single-salary schedules, it is worth pointing out that this approach to teacher pay goes back much further than the emergence of unions in the 1960s. Single-salary schedules were adopted in 1921 in Denver and Des Moines; by 1950, 97 percent of all schools had embraced them.[42] They spread because they were easy to administer and were perceived as fair. They provided incentives for teachers to get full bachelor's degrees or more, which many teachers lacked before mid-century. By treating teachers equally except for experience and education, single-salary schedules are believed by teachers to contribute to a sense of collegiality necessary for good teamwork, a hallmark of many current instructional reform strategies.

As the prior discussion makes clear, however, single-salary schedules do not allow managers to compete effectively for talent in high-demand fields like math and science, and they create no incentives to counter the demonstrated preferences of better-qualified teachers to work in schools serving higher achieving students. Moreover, though they pay teachers for accumulating additional educational credits and degrees, they generally do nothing to ensure that the investment in additional training bears any relationship to a coherent plan for addressing either the individual teacher's or the school's needs. Of course, many teachers are motivated to seek out valuable preparation; and the growth in school-based accountability systems clearly encourages this. But the structure of teacher compensation does not create incentives that reinforce self-motivation or motivate the unmotivated.[43]

Furthermore, the traits rewarded by single-salary schedules (experience and additional education) appear to have little to do with improving student outcomes. While researchers have been able to identify effective teachers (those whose students show achievement gains while in their classrooms), they have not found experience and additional education to be good predictors of who these effective teachers are. Experience does seem to have a positive effect on student achievement for the first few years of a teacher's career, but not much after that. Years of education and having a master's degree are not important determinants of student outcomes. Most of the variation in student achievement is not explained by the differences among teachers rewarded on salary schedules.[44] There is some evidence that more effective teachers perform better on tests of verbal ability or on certification exams[45] and that the selectivity of the college a teacher attended affects her students test score growth.[46] But this research base is not strong enough to warrant a call for considering these teacher traits when determining salaries (though they would be useful factors to consider in hiring decisions). In any event, a

more reasonable approach would be to consider actual student performance as part of salary determinations, as we will propose in the next chapter.

Supplementing the Single-Salary Schedule

There are some signs that districts and states are trying new approaches to teacher pay. Teacher unions have acknowledged the need for changes in pay plans. Younger teachers, in particular, appear to be open to more far-reaching reforms than veterans.[47]

Many recent innovations in teacher pay attempt to compensate for the shortcomings of single-salary schedules rather than to rebuild teacher compensation on a new foundation. "Add-on" pay incentives can be useful first steps in revising the single-salary schedule, though they must be carefully targeted if they are to alter the quality of the teacher candidate pool or the distribution of teachers.

Cynthia Prince[48] has catalogued a variety of incentives in use around the country with the aim of increasing the pool of qualified teachers: for example, signing bonuses for new hires, especially in critical subject areas; bonuses for teachers who demonstrate additional skills and knowledge (for example, by receiving advanced certification from the National Board for Professional Teaching Standards); bonuses for teachers who agree to work in hard-to-staff schools; housing incentives such as relocation assistance, reduced or free rent and utilities, teacher housing, low-interest mortgages, and housing tax credits; tuition assistance through scholarships and loans or forgivable loans; and income tax credits.

Efficient incentives will target bonuses and other benefits so as to attract teachers to the subjects and schools where they are most needed and keep them there. Incentive programs often fail to target resources in this way. Massachusetts, for example, initiated the Massachusetts Signing Bonus Program for New Teachers in 1998. It awarded $20,000 bonuses to highly-qualified individuals who completed an alternative certification program and taught full-time in public schools for four years. The program did not require that these teachers work in hard-to-staff schools, however, and fewer than half of the first year's participants did. Moreover, the program suffered from a high rate of attrition (more than double the national average in the first year of teaching). But the program was not structured to create significant incentives for staying; $8,000 was payable in the first semester of teaching and $4,000 in each of the next three years, with no obligation to repay if the recipient left teaching. Making bonus payments only after teachers had been in the classroom for a year or two would very likely have helped retention.[49]

In a similar vein, California's income tax credit for teachers is a costly way to encourage retention of experienced teachers, who generally have rather low rates of attrition after the first four or five years of teaching. Moreover, it does nothing to address the problem of maldistribution of teachers among various subjects and schools. The California credit is offered to all teachers with at least four years of teaching experience. Teachers with 4 to 5 years of experience are eligible for a $250 credit each year. More experienced teachers are eligible for higher credits, up to $1,500 annually for those with more than 20 years on the job. The credit is estimated to cost the state $202 million for school year 2002-03.[50]

To be effective in improving student learning, incentives must be targeted on the right teachers. A number of scholarship and loan programs aimed at attracting teachers to high-poverty and hard-to-staff urban and rural schools require recipients to begin teaching in these schools right after getting their degrees. Giving inexperienced instructors the most difficult teaching assignments contributes to high levels of attrition among new

recruits. Incentives to take on these assignments would be better targeted on more experienced instructors.[51]

Loan forgiveness programs, moreover, have been shown to have very little effect in attracting students to teaching who would not otherwise have taught. Fellowships or scholarships with service payback requirements are thought to be more successful.[52]

To be effective in changing teacher behavior, incentives also have to be large enough to matter. Earlier incentive programs have been criticized on this account, and without better evaluations it will be difficult for policy makers to know how much is enough. Some researchers have suggested that pay raises of 20, 30, or even 50 percent would be necessary to attract teachers to the most difficult schools.[53] Such findings are echoed in teacher surveys showing that a large majority of teachers would choose easier students and better working conditions over more pay.[54] Thus attracting teachers to hard-to-staff schools will need to be approached not just through pay, but also through steps to improve working conditions or improve the attractiveness of these schools in other ways.

Replacing the Single-Salary Schedule

CED urges states and school boards to go beyond add-ons to the single-salary schedule and adopt a new, market-driven compensation structure. This means using differential pay for teachers in critical subject areas and in hard-to-staff schools and allowing principals greater discretion to use compensation as a tool for achieving the educational goals of their school.

It will take time and experimentation to learn how best to implement market-driven compensation. It is possible, though, to outline some desirable starting points.

Market-driven compensation suggests eliminating single-salary schedules (with cells combining years of service and educational credits) in favor of broader categories of instructional positions, such as the career, mentor, and master teacher designations used in the Teacher Advancement Program (sponsored by the Milken Family Foundation; see Chapter 4). Within categories, principals should have flexibility to pay competitive salaries to attract and keep the teachers they need in specific fields (as well as to reward performance, as we will argue in the next chapter). **In keeping with our preference for decentralized decision-making (as outlined in Chapter 2), principals rather than district-level personnel should make pay decisions in all but perhaps the smallest districts. State salary schedules and state laws requiring districts to adopt single-salary schedules should be eliminated.**

Managers will need to work together with teachers and their unions to develop a new basis for teacher pay, as experience shows clearly that efforts to impose new approaches on teachers unilaterally are doomed to fail. The national leadership of two main unions has shown some willingness to explore new approaches. The American Federation of Teachers (AFT) adopted a resolution in 2002 supporting continuation of the traditional salary schedule but endorsing incentives for teachers who agree to teach in low-performing schools, hard-to-staff schools, and/or shortage areas. The National Education Association (NEA) has shown more willingness to consider differential pay for teachers in hard-to-staff schools than differential pay by subject area. Some local union affiliates have gone beyond their national unions in their willingness to work with local school boards on pay reform.

There are major challenges ahead in changing the basis upon which teacher pay is determined. Many design issues remain to be resolved in moving toward reforms such as differential pay. What kinds of teachers or assignments should be rewarded? Should just new hires or incumbent teachers as well qualify for pay increments? Should long-term rather than one-time inducements be offered? How much

extra pay is enough to cause teachers to change their behavior in ways that help school managers staff their schools more effectively?[55]

We find it encouraging that younger teachers appear more open than veterans to thinking about pay in new ways.[56] We hope that this translates into productive collaborations between teachers and school boards in working out and evaluating new options.

Business leaders can spur fundamental pay reform in several ways. They can give policy makers the political support they will need to change compensation systems. They can help education leaders learn how to handle such issues as using labor market surveys to set competitive salary levels for different specialties. They can demonstrate how firms foster collegiality and teamwork while acknowledging labor market realities that demand differential pay.

Districts willing to take on these challenges can look for help to the federal "No Child Left Behind" Act. Title IIA authorizes funding ($2.9 billion in 2003) for states and districts to use in preparing, training, and recruiting high-quality teachers and principals. Among the approved uses of these funds is the development and implementation of differential pay as well as performance-based pay for teachers and principals.

REDUCING PENALTIES IMPOSED ON MOBILE TEACHERS

CED recommends that policy makers remove penalties that are imposed on teachers who move from district to district or state to state.

One type of penalty stems from the way the single-salary schedule rewards experience. Veteran teachers who transfer to a new district typically receive only partial credit for their prior service, typically only 5 or 6 years worth. Over their teaching career, they may earn less than they would have if they had remained in their original district and received full credit for all their years of teaching.

Likewise, mobile teachers generally qualify for lower pensions than their colleagues who do not move. Most teacher pension programs (like public employment pensions programs more generally) are structured as so-called "defined benefit" programs, which base pension levels on a combination of years of service and earnings in the last few years before retirement. Since there is virtually no interstate reciprocity in teacher pension programs, and some states even have multiple pension programs which do not offer reciprocity within the state, mobile teachers are likely to receive lower pensions than teachers with the same years of total service who stay within the same state or district.

There are a variety of ways policy makers might address these problems. Some states have shortened vesting periods (the period of service required before a worker becomes eligible for a pension), have allowed partial vesting, have made it easier for mobile teachers to purchase "service credits" in their new pension plan, and have expanded intrastate reciprocity. As of 1999, however, only Missouri and Texas allowed interstate reciprocity agreements. A few states have adopted optional "defined contribution" plans for teachers. Under such plans employers contribute a specified amount annually to a retirement account that is owned by the employee; the ultimate pension benefit depends on the amounts invested, the investment returns, and the age at which pension payments begin. Defined contribution pensions do not penalize mobile workers to the extent that defined-benefit plans do. Florida offers an example of how a state can approach changes in its retirement system in order to attract and retain talented public employees.[57] (See text box, "Pension Reform in Florida.")

PENSION REFORM IN FLORIDA

In 2000, Florida enacted reforms to its public employee pension system, which covers teachers as well as other state workers. A legislative study commission developed three primary goals for pension reform in the state: to provide levels of income comparable to other retirement systems, to promote consistency in the terms and benefits for public employees, and to keep benefits competitive.

Among other things, the commission sought to improve portability in the pension system so as not to unduly penalize workers who change jobs. A survey of education majors at Florida State University, conducted as part of the commission's work, found that these future teachers expect to be mobile; they rated health and retirement benefits ahead of salary as important factors influencing their decision to pursue teaching careers.

The pension reform bill passed by the legislature established an optional defined contribution plan for public school teachers and other state and local employees. Policy makers also took steps to enhance the existing defined benefit plan by increasing employer contribution rates and by reducing the number of years required for vesting. Employees are given two opportunities to switch from one plan to another.

SOURCE: Sandra S. Ruppert, *Improving Pension Portability for K-12 Teacher* (Denver, CO: State Higher Education Executive Officers, February 2001).

Chapter 4

USING FINANCIAL INCENTIVES TO IMPROVE EDUCATIONAL OUTCOMES

Traditional education funding policies do not create incentives that encourage schools to improve their performance. Historically, schools have received their formula-determined share of funding from local, state, and federal governments regardless of whether their students were learning. Teachers and principals likewise were paid with little or no attention to student achievement. Other than by moving or enrolling their children in private schools, parents were largely unable to exert pressure on public schools to perform.

The advent of the "accountability" movement accompanying standards-based reform and culminating in the "No Child Left Behind" Act (see text box, "'No Child Left Behind' and Educational Accountability") means that it is no longer possible to say that American education policy pays little attention to school performance. Still, there is much to do to make sure that the incentives created by funding policies reinforce the importance of improved student achievement and school performance.

One avenue for improving financial incentives lies in tying some part of the funding that schools and/or the educators within them receive to improved student learning. A second kind of incentive seeks to encourage improvement and innovation by broadening the definition of what constitutes a "public school" for funding purposes. It recognizes new forms of school governance and management, such as charter schools, that provide alternatives to traditional district-run schools.

Incentives can encourage undesirable as well as desirable changes in behavior. We are sensitive to this danger, and our recommenda-

"NO CHILD LEFT BEHIND" AND EDUCATIONAL ACCOUNTABILITY

NCLB requires each state to define a "proficient" level of academic achievement in reading/language arts and mathematics and to adopt an accountability system (based primarily on academic indicators) that requires "adequate yearly progress" (AYP) toward bringing all students up to a proficient level within 12 years. The law requires progressively more extensive "corrective actions" in schools and districts receiving federal education funds if students fail to meet AYP targets set out in a federally-approved state plan. Corrective actions are triggered when a school receiving federal funds fails to meet its AYP goal for two consecutive years and is therefore identified as needing improvement. In the first year of school improvement, parents in the affected schools must be given the right to transfer to better-performing public schools. In the second year of improvement schools must also offer students the opportunity to receive tutoring from supplemental service providers of the parents' choice. Schools that continue to miss their AYP goals in subsequent years face additional actions culminating after the fifth year in "restructuring." This must involve one or more of the following: reopening as a charter school, replacing all or most of the school staff, state takeover of school operations, or other major restructuring of school governance.

tions about increasing the use of incentives for improved performance seek approaches that will minimize this risk.

PERFORMANCE PAY

The most obvious "missing" incentive in education is the disconnect between teacher pay and teacher performance. As we saw in Chapter 3, the single-salary schedule rewards only years of experience and credits and degrees earned, neither of which has been shown to be strongly related to teachers' ability to improve student learning. Unfortunately, while some essential qualities of effective teaching (e.g., strong subject matter knowledge) seem clear, it is impossible to identify good teachers by their characteristics alone. This fact has led to calls for rewarding teachers with higher salaries and/or bonuses for improving student outcomes, not just for time on the job or other formal educational credentials.

CED is strongly in favor of linking some part of teacher pay to improved outcomes for students. This is, we recognize, a controversial position that is very unpopular with teachers. Moreover, most past efforts to institute some form of performance pay have failed. It is easy for individuals with various views to talk past each other. Hot-button terms like "merit pay" and "performance pay" mean different things to different people. Suggestions to make public sector pay reflect private sector models often fail to acknowledge important differences in the legal and cultural environments of the two sectors that powerfully affect what will work in each.

Without dismissing these differences, **CED believes that teachers (and other educators), like virtually all other professionals, should be evaluated on how well they perform on the job. Some part of their pay should reflect this performance. Good teachers should be rewarded financially; ineffective teachers who are unable to improve should not only see poor performance reflected in their pay but ultimately should be removed from the classroom. We think that linking pay and performance is potentially one of the most important tools available to policy makers for encouraging strong candidates to enter teaching (knowing that effort and effectiveness will be rewarded) and effective teachers to remain in the classroom.** We believe that it is possible to develop pay-for-performance plans for educators that take into account teaching's special circumstances and the importance of encouraging joint as well as individual efforts on behalf of students. We recognize that there is still much to learn about how to structure such plans so that teachers accept them and students benefit from them. All school districts should be working toward inclusion of performance indicators in their evaluation and compensation plans. It is no longer acceptable to completely divorce compensation and performance as the traditional salary structure does.

Perspectives on Performance Pay

Definitional fuzziness complicates discussion of pay-for-performance plans. Rewards can be given to groups (e.g., all the teachers in a particular school) or to individuals. Pay increases can increase base salaries or be distributed as one-time bonuses that do not result in base salary levels. Debates over "merit" pay often fail to distinguish among these options. It is crucial to be clear about exactly what is at issue when proposals for pay-for-performance are being considered.

The history of pay-for-performance in education has led many to doubt its feasibility. Over the last 30 or so years, a number of districts have experimented with so-called merit pay plans or with career ladders (which sought to identify effective teachers and provide them with extra pay by giving them leadership opportunities that often took them out of the classroom). Few of these programs survived for long, and those that did tended to

evolve into rewards for teachers who took on extra work rather than those who performed best. Among the problems that beset these efforts were difficulties in establishing criteria for teacher effectiveness, mistrust of the fairness of performance appraisals by principals, fears that pay bonuses (which were often restricted to a small proportion of teachers) would lead to competitiveness rather than teamwork, and unstable funding that weakened the incentive effect and also sent a signal that these pay-for-performance efforts were not core elements of the educational program.[58]

Private sector pay policies suffer similar problems. Nevertheless, pay for performance is widespread in the private sector. Some of the solutions adopted by private sector firms, however, are not easily implemented for employees in a school setting. Explicit policies that relate pay to specific measures of performance are more easily applied to employees whose output can be easily observed (and who may be rewarded through sales commissions or piece rates). Even in the private sector, many employers base rewards more on subjective evaluations of performance than on quantitative performance outcomes. Moreover, white-collar workers are often rewarded through promotions, an option much less available in teaching. While subjectivity characterizes most firms' approaches to compensation, the private sector is not immune from some of the consequences that teachers fear, such as supervisors playing favorites. Businesses compensate for some of the difficulties with individual pay incentives by also employing group incentives (such as profit-sharing and group performance bonuses), while recognizing that these too are not immune from problems such as the tendency of some employees to "free-ride" on the efforts of others.[59] Thus, **performance pay in education must be approached with honest acknowledgement of the real challenges in implementing it.**

Moving to Performance Pay in Education

Some observers of teaching, sensitive to the importance of teamwork and collegiality among instructors in producing coherent educational experiences over time for students, have argued that groups, rather than individuals, should be the focus of efforts to tie some part of compensation to student outcomes. As of 2002, seventeen states included some kind of financial reward for good school performance in their accountability systems.[60] Some allowed or required financial rewards to be distributed to teachers in the school, while others required that the money be used for educational programs but not for staff salaries or bonuses. A few individual school districts also provided performance-based group bonuses to schools.

Group performance awards appear to be more widely used than individual awards, though a few districts have been exploring a new approach to teacher compensation called "knowledge- and skills-based (KSBA) pay."[61] KSBA systems attempt to avoid the problems with failed merit-pay and career-ladder approaches while rewarding teachers for acquiring and demonstrating specific knowledge and skills that should improve their instructional effectiveness. KSBA can be designed as an add-on to the single-salary schedule or can modify or replace it entirely. A major effort to build an entire KSBA system was undertaken in Cincinnati. Although important elements of the plan have been incorporated into the union contract, teachers rejected the part of the plan that would have moved them off a single-salary schedule to a salary structure linking pay to demonstrated knowledge and skills. (See text box, "Knowledge- and Skill-Based Pay in Cincinnati.")

Knowledge- and skills-based pay provides more direct incentives than does group performance pay for individual teachers to

KNOWLEDGE- AND SKILLS-BASED PAY IN CINCINNATI

Cincinnati teachers and administrators worked together to design a knowledge- and skills-based evaluation and compensation structure. The district developed specific standards that became the basis for a new performance-based evaluation system and for teacher professional development. Evaluation results are used to designate teachers as apprentice, novice, career, advanced, or accomplished teachers. To advance from apprentice (where all beginning teachers are placed), teachers have to demonstrate higher levels of professional practice. Apprentices who fail to move to novice status within two years are terminated, as are novice teachers who fail to advance to career status within five years and career teachers who fall below this level on two successive evaluations.

The new evaluation system is operational in Cincinnati and is now part of the collective bargaining agreement. However, in May 2002 teachers overwhelmingly rejected a new pay structure that set broad salary ranges for each new teacher category. Under the new structure teachers who never moved beyond, say, the career level would have salaries permanently lower than either advanced or accomplished teachers, regardless of their years on the job.

According to *Education Week*, many teachers feared that the new plan would have the effect of lowering salaries. An offer by the district to give teachers already in the system the choice of opting into the new plan came too late to be incorporated in the ballot or to be fully debated. At the time of the vote, only about 10 percent of the district's teachers had been through the new evaluation system, which also led to much uncertainty about where they would end up on the new salary schedule.

SOURCES: Allan Odden, "An Early Assessment of Comprehensive Teacher Compensation Change Plans," in Marge L. Plecki and David H. Monk, eds., *School Finance and Teacher Quality: Exploring the Connections,* 2003 Yearbook of the American Education Finance Association (Larchmont, NY: Eye on Education, 2003); Bess Keller, "Cincinnati Teachers Rebuff Performance Pay," *Education Week* 21(38), May 29, 2002, p. 5.

develop the specific skills that their schools need and can thus be an important step in moving individual teacher compensation away from total reliance on the single-salary schedule. Teachers and their unions have been more willing to embrace these plans than they have pay plans that link teacher compensation directly to student outcomes. But, as we have said before,[62] we believe that **some part of individual pay should be linked directly with teachers' demonstrated ability to foster student learning**.

Teacher effectiveness in the classroom should probably be evaluated over several years to avoid the instability inherent in annual scores for small groups. Moreover, it is important to measure changes in student performance and not just absolute levels when assessing teacher effectiveness, to help control for the many factors affecting student learning that are outside the teacher's control. Such "value-added" evaluations make costly new demands on testing and data systems.[63]

As in the private sector, effectiveness could be evaluated through subjective performance appraisals as well as objective performance measures such as student test score gains. Teachers have traditionally mistrusted subjective evaluations; but education is not alone among occupations in needing to balance judgment and fairness in performance appraisals. We are confident that, like other employers, educational managers and teachers can find mutually acceptable methods of doing so. Appraisals that involve fellow teachers as well as administrators can help alleviate concerns about fairness and impartiality. The advantage to teachers (who fear being judged on student scores alone, given there is much in their students' lives and behavior beyond their control) is that a range of factors can be taken into account in an appraisal process that allows for judgment to be exercised.

In CED's view, group awards, knowledge- and skills-based pay, and pay for individual teachers linked to their own students' gains are all promising ways of bringing desirable incentives into teacher compensation systems. Each admittedly has shortcomings, but these can be minimized by designing pay systems that combine the approaches. Group awards, especially those administered as part of state accountability systems, tend to be based on student scores on statewide standardized tests given in a limited set of subjects and grades; they are thus subject to concerns about narrowing of the curriculum and "teaching to the test." Group awards also raise fairness concerns: some teachers may "free ride" on the efforts of others, and some kinds of schools (small schools, schools with diverse student bodies) may have trouble winning awards unless accountability systems take into account the statistical challenges such schools pose to measuring improvements in student performance. By adopting their own group and individual performance pay plans based on a wider set of criteria, districts can help ensure that deserving schools and teachers are appropriately recognized. By offering individual as well as group awards, districts can address the "free-rider" problem while still rewarding teamwork within schools. Knowledge- and skills-based pay can create linkages that are absent in the single-salary schedule between teacher professional development and the specific improvement plans of individual schools. Pay that reflects actual student gains can give truly effective teachers confidence that exceptional performance will increase their ability to earn higher salaries over their careers.

There are as yet few models of successfully-implemented compensation systems that embrace such a comprehensive reform of teacher pay, but there are some pioneering efforts that provide valuable information about the substance and process of developing such plans. The Teacher Advancement

THE TEACHER ADVANCEMENT PROGRAM (TAP)

TAP, launched in 1999 by Lowell Milken, describes itself as "a comprehensive, business-oriented system with five interrelated principles: multiple career paths; market-driven compensation; performance-based accountability; ongoing applied professional growth; and expanding the supply of high quality teachers." The TAP model is meant to be adaptable to diverse school districts and situations.

The elementary and middle-school model provides for three basic career paths: career, mentor, and master teacher. The high school model adds categories for first-year inductees, adjunct teachers (a working professional with a partial class load), and faculty fellow (a distinguished, retired teacher asked to teach specific courses). TAP's performance-based accountability system is far more elaborate than traditional teacher evaluation systems, with each teacher evaluated numerous times by trained and certified evaluators and with performance scored at five levels against TAP Effective Teacher Performance Standards. Student achievement is reflected in teacher evaluations through the use of value-added classroom achievement gains produced by the teacher, as well as the school achievement gains from year to year. Teacher bonuses reflect student achievement as well as the teacher's knowledge and skills. Principals have the flexibility to compensate teachers based on their level along the career path as well as their performance; principals are also encouraged to offer competitive salaries to attract teachers for hard-to-staff schools and in hard-to-staff subjects.

SOURCE: Lowell Milken, *Growth of the Teacher Advancement Program*, Teaching as the Opportunity 2002, (Santa Monica, CA: Milken Family Foundation, 2002).

Program (TAP), sponsored by the Milken Family Foundation, aims to attract, retain, and motivate the best talent to the American teaching profession through a multipronged approach to teacher evaluation and compensation that recognizes teacher knowledge, skills, and responsibilities; school-wide achievement gains; and individual classroom student achievement gains. TAP is currently being implemented at more than 50 schools in 6 states. (See text box, "The Teacher Advancement Program.") The Denver Public School system and the Denver Classroom Teachers Association (an affiliate of the National Education Association) have just completed a four-year joint pilot project exploring several approaches to linking teacher compensation with student achievement and are now in the process of developing a new salary structure that will be based, in part, on student achievement. (See text box, "Pay Reform in Denver.")

Pay-for-performance should encourage teachers to become more effective, but it will not save money and in fact is almost certain to require additional spending. Performance incentives will have to be large enough to affect teacher behavior and will probably have to result in increases over current pay levels to induce teachers to move away from the comfortable single-salary schedule. Replacing ineffective teachers with effective ones will

PAY REFORM IN DENVER

As they neared the end of a four-year pilot program experimenting with various forms of performance-based pay in selected schools, Denver school district and union officials set up a Joint Salary Task Force in 2002 to plan for expanding pay-for-performance throughout the district. In May 2003 the task force issued a draft recommendation for "a bold new compensation system" with three primary objectives:

- To link teacher compensation more closely with the district's instructional goals.
- To reward and recognize teachers for meeting and exceeding expectations.
- To enable Denver Public Schools to attract and retain the most qualified and effective teachers.

The draft proposed replacing the existing salary schedule for new teachers and for current teachers who "opt in" with a compensation system that includes:

- Uncapped annual and career earnings for teachers who meet and exceed expectations.
- Annual and "sustained" bonuses for demonstrated student growth.
- Accelerated salary increases and bonuses for demonstrated acquisition of additional knowledge and skills related to student growth and grounded in teachers' instructional disciplines.
- Market incentives for teachers of demonstrated accomplishment who choose to work in schools and teaching assignments where high rates of teacher turnover have led to lower student growth.

The task force laid out a timeline for discussion, development of final recommendations, and collective bargaining, culminating in a March 2004 vote of both the union and school board on whether to ratify a new compensation plan.

SOURCE: The Joint Task Force on Teacher Compensation, available at <www.denverteachercompensation.org> Accessed October 30, 2003.

add to upward pressure on salaries. Teachers must also have reason to believe that the funds necessary to sustain performance-based increases will be available; too often in the past, innovative pay arrangements have foundered after a short time as states or districts failed to come up with the promised funds. Payroll costs in the long term could rise significantly if many teachers qualify for performance-based pay, but limiting such pay arbitrarily to some percentage of teachers (as earlier merit pay plans often did) is likely to spur opposition to new pay arrangements. Districts will have to invest in professional development to help both teachers and managers understand and exercise their roles in a new pay system. **Business leaders and others who support wider use of pay-for-performance plans in schools must also be prepared to support the costs necessary to implement and sustain them.**

Pay-for-performance makes unprecedented demands on data systems that were not designed with teacher accountability or compensation linked to student performance in mind. More diagnostic tools (e.g., tests aligned with curriculum that can be given frequently to monitor progress) will also be needed to assist teachers in tracking individual students' learning more closely during the course of the school year.

Although this chapter has focused on teacher pay, it has implications for administrative salaries as well. Linking compensation to improved outcomes for students is as applicable to superintendents and principals as to classroom instructors. Some superintendents are already on formal performance contracts of some kind. Increasingly states and districts are giving principals financial rewards if their schools raise student achievement. Houston has gone a step beyond performance awards by making all new principals (and veteran principals who opt into the system) "at will" employees in return for substantial increases in their salaries.

FUNDING NEW INSTITUTIONAL ARRANGEMENTS FOR PUBLIC SCHOOLS

CED Trustees have long expressed concern about how public schools are governed and managed[64] and have called for new institutional arrangements as well as for rethinking the roles of traditional operating bodies such as local school boards and state education agencies. A decade ago, CED enthusiastically supported experimentation with the then-new form of public schools called "charter schools," which operate autonomously, comparatively free from district and state regulations in exchange for agreements ("charters") to improve student achievement.† (See text box, "Governance and Management in Charter Schools.") CED believed these schools offered an important opportunity to complement regular public schools and to demonstrate the ability of site-managed schools to meet student achievement goals in a less restrictive regulatory environment than that which (in CED's view) too often hobbled traditionally-operated schools.

The growth of charter schools over the last decade has been remarkable, from 3 schools in one state in academic year 1992-93 to 2700 schools in 39 states and the District of Columbia in 2002-03. (See Figures 7 and 8.) Enrollment has reached about 700,000 students, and many schools have waiting lists. While charter schools still represent a small part of the public education universe (which totals over 90,000 schools and roughly 48 million students), they have spread much farther and faster than any other institutional alternative to the traditional public school.

CED continues to support the charter school option and urge state policy makers to adopt policies that will give these schools a fair opportunity to be successful. Equitable

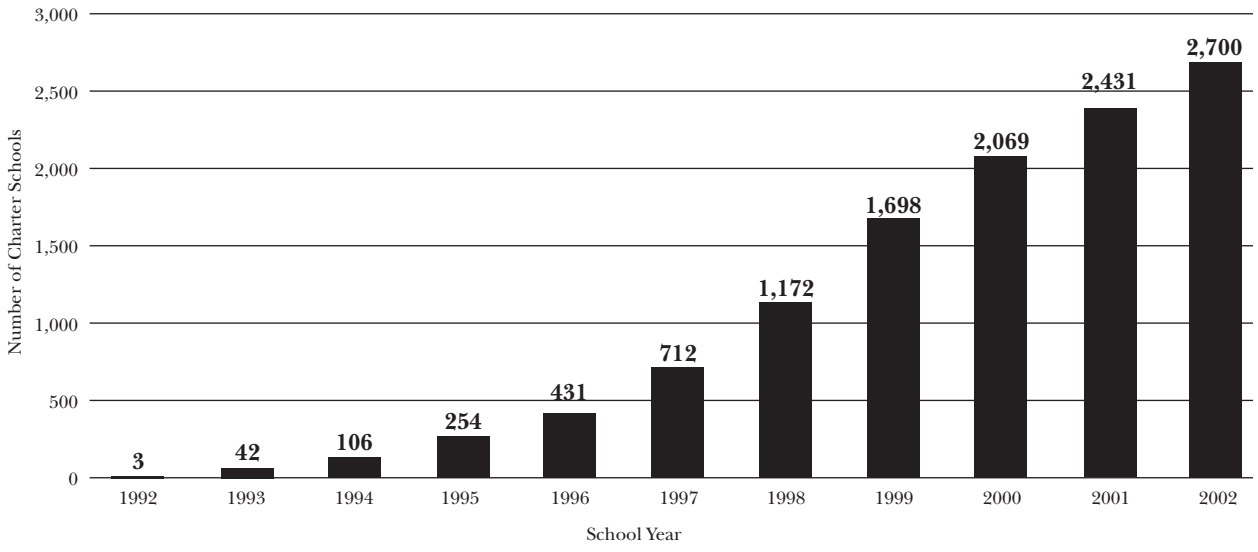
† Most states use the term "charter school," but a few have adopted other names, such as "community school" in Ohio and "public school academy" in Michigan.

GOVERNANCE AND MANAGEMENT IN CHARTER SCHOOLS

Charter schools provide an alternative to the tradition of giving district-based school boards sole responsibility for the operation of all public schools within their geographic boundaries. Instead, state legislation gives school boards and/or other entities (such as universities, mayors, state boards of education) the authority to grant charters to groups of parents or teachers or others to run a school. Charter schools are freed from many of the restrictions applied to traditional schools in exchange for agreeing to be accountable to their authorizing agency for meeting objectives outlined in the charter. Charters are granted for limited periods of time (typically five years). Schools that fail to meet their objectives or other obligations (such as complying with financial or reporting requirements) under their charters can be closed by their authorizers. While charter schools have many of the freedoms of private schools to create their own educational programs, they cannot charge tuition, they must be non-selective in enrollment, and they are subject to the same restrictions on religion as public schools. State laws vary in how much freedom they grant to charter schools from the regulations applied to traditional public schools, including the extent to which such schools are bound by state and local teacher certification and salary rules and collective bargaining arrangements. Charter schools are managed by their own governing board rather than by public school boards or charter authorizers. Some charter school governing boards have contracted with so-called educational management organizations (EMOs) to actually run the school. While charter schools (like their traditional counterparts) are nonprofit, many EMOs are profit-making companies who in turn report to their own boards of directors and investors.

Figure 7

Growth in the Number of Charter Schools: 1992-2002



SOURCE: Center for Education Reform as cited in, Bryan C. Hassel, "Friendly Competition," *Education Next*, vol. 3, no. 1 (Winter 2003), p.10.

Figure 8

Number of Charter School in Operation and Total Charter School Enrollment by State: 2002-2003

State	Number of charter schools	Enrollment
Total	**2696**	**694,338**
Alaska	15	2,682
Arizona	464	73,542
Arkansas	8	1,486
California	428	153,935
Colorado	93	25,512
Connecticut	16	2,526
Delaware	11	5,262
District of Columbia	39	11,530
Florida	227	53,350
Georgia	35	15,117
Hawaii	25	3,300
Idaho	13	2,694
Illinois	29	10,309
Indiana	10	1,275
Kansas	30	2,568
Louisiana	20	4,631
Massachusetts	46	14,013
Michigan	196	~70,000
Minnesota	87	12,269
Mississippi	1	334
Missouri	26	12,130
Nevada	13	2,851
New Jersey	56	18,081
New Mexico	28	4,234
New York	38	10,954
North Carolina	93	21,020
Ohio	131	28,446
Oklahoma	10	2,197
Oregon	25	2,107
Pennsylvania	91	33,656
Rhode Island	7	914
South Carolina	13	1,235
Texas	221	60,562
Utah	12	1,259
Virginia	8	1,440
Wisconsin	130	26,797
Wyoming	1	110

SOURCE: Department of Education, *US Charter Schools: State and School Information*, available at <http://www.uscharterschools.org/pub/uscs_docs/gi/state_map.htm> Accessed October 30, 2003.

treatment of charter schools is taking on new importance as urban reformers in several large cities (Chicago, Los Angeles) are looking to charter schools to broaden business and civic leaders' support for public education and to model the development of high performance schools for the entire district. We are concerned about the obstacles that many charter schools operators have faced, particularly (given the thrust of this report) funding policies that often put these schools at a disadvantage compared to those operated by traditional school boards.

We recognize that it is not yet clear whether charter schools will ultimately fulfill the promise envisioned for them of improving student achievement and fostering innovative and high quality educational programs. The academic performance of charter school students so far is mixed, with no evidence that student achievement is dramatically better or worse on average than students in traditional public schools. Parents clearly are satisfied with the charter school experiences of their children, however, and most charter schools are so new that it is really premature to draw definitive conclusions about their potential for improving student learning.[65]

Enacting charter school laws has been contentious in many states; opponents have often succeeded in limiting the number of schools, skimping on funding, and/or imposing many regulations. Current budget pressures are causing some policy makers to ask whether charters are affordable. Even the staunchest charter school advocates point to some real problems in the first decade's experience with this new form of public school.[66] Some greedy operators put making money before meeting children's educational needs; some authorizing bodies granted charters to operators who established schools that were fiscally disastrous and academically inadequate; and some management companies did not do their jobs well, despite charging large fees. Oversight

and accountability have in some cases been seriously deficient.

These abuses are certainly troublesome, but not surprising in so new and unconventional an undertaking. We see signs that both state policy makers and charter school authorizers have recognized the need to strengthen oversight and accountability. Much more is known now than 10 years ago about how to exercise due diligence before charters are awarded and perform ongoing reviews during the period of the charter. The National Association of Charter School Authorizers, created in 2001, provides its members with information on carrying out such duties as evaluating charter applications and school performance, negotiating accountability agreements, and making renewal/revocation decisions. Some states have recognized the need to strengthen the capacity of their authorizers, in part by ensuring that they have the necessary funds to execute their responsibilities conscientiously.

We will never know if charters can fulfill their promise, however, without giving them a chance to compete on a level playing field financially. The diversity of state funding formulas for both traditional and charter schools (and the absence of accurate school-level budgets, as described in Chapter 2) makes it impossible to make neat quantitative comparisons between regular and charter school funding, but it is clear that charter schools face a number of hurdles relating to operating expenses, start-up costs, and (most significantly) facilities financing.

Charter schools get their public funds through per-pupil funding systems. Sometimes this funding is based on a state's average per-pupil expenditure. Sometimes charter schools receive funding based on district average revenues or expenditures. In some states, charter schools negotiate their funding with the chartering agency (which is often a district school board). In addition to base per-pupil funding, charter schools are eligible for a variety of state and federal categorical program funds.[67]

It is clear that at least some charter schools face operating fund inequities under current laws and practices. For example, New York State funds its charter schools at about two-thirds of regular per-pupil funding.[68] For New York City charter schools in 1999-2000, this meant that charter schools received $6,207 per-pupil, while traditional public schools received $9,739.[69] California provides charter schools with a block grant equivalent to what traditional schools receive from so-called "revenue-limited funding" (the basic state operating subsidy) and also a block grant in lieu of some of California's categorical education funding. Some of the largest state categorical funding (as well as federal categorical aid) falls outside the block grant, however. Charter schools can apply separately for this latter assistance, but do not fully participate in these programs and so do not receive equivalent funding.[70] In states where charter schools must negotiate their funding with authorizers, charter operators may find themselves negotiating with district officials who are less than enthusiastic about sharing funds with these new public entities. The result may be lower per-pupil allotments, as well as problems for charter schools in getting access to federal and state categorical funds that flow through districts. Sometimes charter school operators are charged by districts for ill-defined services from which they receive little or no benefit.

Not all funding disparities between charter and regular schools advantage the latter. In some places, charter schools receive equivalent operating funds based on K-12 figures, though the charter may only be serving elementary school students who are generally thought to be less expensive than secondary students. Sometimes charter school allotments are based on regular funding formulas that include services (such as transportation) that the charter school may not provide. On balance, however, the consensus seems to be that

in many cases charter schools are not receiving public funding equivalent to traditional public schools.

Two other financial barriers hinder charter school operations. Despite some federal funding available to help with start-up costs, the need to begin paying for planning, staff, and equipment before operating subsidies begin flowing hobbles many operators. But the really big financial obstacle for most charter schools is facilities.

From the charter school funding streams we have been describing, charter schools must pay to obtain and operate a school building. This is a major difference from traditional public schools, whose capital and maintenance needs are largely met from separate budgets and not from their operating funds. School districts typically rely on bond issues to pay for their buildings, an option largely closed to charter schools. One analyst has estimated that charter schools might have to pay up to 20 percent or more of their operating funds for their facilities, thus putting them at a clear financial disadvantage with traditional schools that can use their entire operating budgets for their educational activities.[71]

Facilities are widely cited as the biggest problem facing would-be charter operators. Finding appropriate space complicates the issue and raises the cost in tight real-estate markets. Some states provide at least some help with facilities funding and/or have policies that permit or require school districts to lease available space. In California, schools districts must make facilities available to charter schools serving at least 80 in-district students; districts can charge charter schools for the use of the facilities and retain ownership of the property. For charter schools serving disadvantaged students and not qualifying for this district assistance, California has a grant program to help with facilities rent and lease expenses. But a number of states provide no facilities funds or other facilities assistance to charter schools, and some state provisions tie charters' hands tightly. The New York charter law, for example, prohibits charter schools from "pledging, assigning or spending" their public per-pupil funds to purchase, construct, or improve a school facility, thus encouraging charters to partner with organizations that can help them acquire appropriate facilities.[72]

The New York experience points to a subtle but potentially important consequence of the failure to give charter schools a level financial playing field. Some charter school advocates believe that the educational innovations it was hoped these schools would produce are more likely to arise from "visionaries who create unique, grassroots charters," rather than from "sleek education management firms."[73] Management firms can help overcome the challenges of starting charter schools by providing expertise and systems, economies of scale, capital, and the capacity to cultivate leaders and sustain schools over time, but the pressures they feel to fill seats may discourage them from embracing innovations that may be unfamiliar to parents.[74] Many charter school operators have turned to partners (both nonprofit and profit-making) to help them overcome financial and other obstacles, but these partnership arrangements can result in the partners, rather than the governing board of the school itself, having disproportionate influence on decision-making.[75]

Fair funding policies for charter schools may be especially important for urban school reformers dealing with the most intractable school improvement challenges. Many large urban districts are "frozen systems" whose bureaucratic controls, group entitlements, and job protections have been largely left intact by past reform efforts.[76] In cities like Chicago and Los Angeles, reformers impatient with the failure of traditional strategies to reverse decline in achievement and restore public confidence are now looking to networks of charter schools as the best hope for leveraging change. Business and other civic leaders are providing the impetus behind the

Los Angeles effort, while in Chicago these leaders are supplying crucial support for a district-initiated charter strategy. (See text box, "Charter Schools and Education Reform in Chicago and Los Angeles.")†

† Given the renewed interest in tax-supported vouchers for private education in the wake of the Supreme Court's 2002 decision in *Zelman v. Simmons-Harris*, we should note that we did not address the voucher question in this report on funding policies for public schools. Advocates argue that publicly-funded vouchers will encourage some of the same innovation and improvement that we hope to find in charter schools. Nevertheless, in earlier reports CED Trustees have expressed grave reservations about using scarce public resources, which would otherwise be available to improve public education, to support vouchers. In our 1994 report *Putting Learning First: Governing and Managing the Schools for High Achievement*, we did not find the arguments supporting vouchers persuasive enough to reverse our long-standing objection to using public funds to support private education. Before changing this position, we would need to investigate issues that go beyond those examined in the current study. In particular, we would need to review the evidence about the experience to date with vouchers and their effect on student achievement, social diversity, and other important goals of the education enterprise. We would also need to evaluate a series of policy issues—e.g., related to admissions policies, accountability provisions, and whether supplemental tuition may be charged—that were not part of our current research.

CHARTER SCHOOLS AND EDUCATION REFORM IN CHICAGO AND LOS ANGELES

Chicago Public Schools officials, acknowledging problems such as their inability to turn around their poorest performing high schools, have used charter schools as a way to create alternatives. The districts has sought charter school applications from groups prepared to serve needs identified by the district and has worked with local university and business leaders to create a rigorous proposal review process to help ensure that approved schools would be capable of carrying out their missions. The district Chart Schools Office actively works with business-backed groups such as the Civic Committee of the Commercial Club of Chicago and Leadership for Quality Education in supporting charter school efforts. Chicago Public Schools provided $2 million to create a low-interest revolving loan fund for charter school facility and start-up needs. The fund is managed by the Illinois Facilities Fund, a nonprofit community development financial institution. Chicago Public Schools officials supported a successful 2003 effort to persuade the state legislature to increase the ceiling on the number of charter schools in Chicago from 15 to 30.

In Los Angeles, an alliance of civic and business leaders commissioned WestEd, one of the nation's Regional Educational Laboratories, to help the group understand the governance and structural barriers inhibiting reform from taking hold in the district. The Los Angeles Alliance for School Achievement also sought to learn how it could effectively exert leverage to help the schools improve.

Following the study's recommendations, the Alliance has launched "College-Ready Public Schools," a network of independent charter schools within the Los Angeles Unified School District (LAUSD). These schools will be authorized by LAUSD but will (unlike Chicago's) be fully autonomous within the district rather than affiliated with the traditional system. The network aims to enhance district capacity while fostering innovation, joint problem solving, and sharing of best practices. WestEd outlined several elements though which the Alliance's network could support charter schools, including strong learning goals and accountability measures for each school; an incubator for new charter schools; coordinators to facilitate network collaboration and the development of communities of practice; support for high-quality professional development; a comprehensive data system; outreach and advocacy; and research and evaluation. College-Ready Public Schools plans to open a minimum of 20 small public K-8 and high schools in Los Angeles by the fall of 2008 and ultimately envisions a network of up to 100 public schools. The first schools will open in the fall of 2004.

SOURCE: WestEd, *Creating Excellence for All Students: Transforming Education in Los Angeles,* (recommendations from WestEd to the Los Angeles Alliance for School Achievement, San Francisco, CA, 2003).

Chapter 5

SCHOOL FUNDING AND THE COSTS OF MEETING EDUCATIONAL STANDARDS

In earlier chapters this report has identified a number of ways in which school finance policies and practices should be changed so that resources are used as efficiently and effectively as possible to improve student learning. Even if all our recommendations are adopted, however, an important question will remain: Are the financial resources available to districts and schools adequate to accomplish the goals being set for them?

This question has taken on new urgency in the era of standards-based reform because, for the first time, states are spelling out in detail what students should know and be expected to do; and federal and state governments are imposing sanctions on students and schools that fail to meet these standards. The "No Child Left Behind" Act requires states to make many costly changes in their education systems, though the extent to which these new mandates will be accompanied by the federal funds needed to implement them is presently unclear.

In this new political context, the familiar approach to decision-making about school finance—political bargaining over how much revenue to raise and how to distribute it, with little or no reference to the cost of meeting standards—no longer suffices. Legislatively-determined academic standards (reinforced by accountability provisions) imply a legislative obligation to provide sufficient resources so that all students will have the opportunity to meet these standards. For policy makers in a number of states, courts are adding to the pressure to link funding levels to expected educational outcomes as judges rule that the state is constitutionally required to provide an "adequate" education for all children.

Today's political and judicial environments pose two tough school funding challenges for policy makers: how to determine what the public's educational goals should cost and how to raise the revenues necessary to fund those costs. **Determining the costs of meeting educational standards requires new approaches to setting funding formulas. Raising the necessary revenues requires addressing outdated tax structures that do not keep up with public demands for services and that lead to harmful "boom and bust" cycles of program expansion and contraction. Addressing these challenges poses difficult technical and political issues. Policy makers need the support and help of business leaders and others in designing a new, standards-based approach for funding the nation's schools and in building the political will to overcome "business as usual" on these controversial tax-and-spend issues.**

MEETING THE COSTS OF EDUCATIONAL STANDARDS

Until the last 30 years or so, there was little on which states and districts could base their decisions about educational funding levels except comparisons with other states, historical spending patterns, and the political environment for raising and spending public funds. The advent of standards-based reform as the dominant strategy for improving the

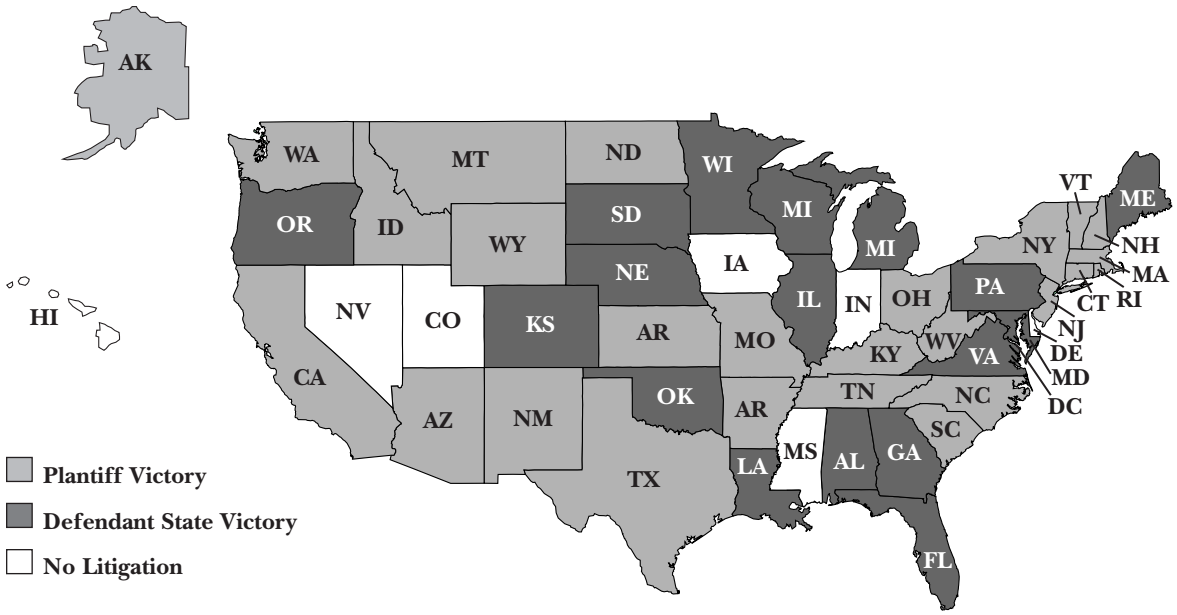
nation's schools has, at least in principle, provided a basis for linking funding to educational objectives.

While we would prefer that governors and legislators rather than judges undertake to make this link, we recognize that, in the aftermath of the 1954 *Brown vs. Board of Education* decision ending racial segregation in schools, courts have provided much of the impetus for education reform generally and school finance reform specifically. In about half the states (see Figure 9) courts have ruled that state constitutional requirements impose education funding obligations on policy makers. The first round of school finance cases (beginning with *Serrano vs. Priest* in California in the early 1970s) sought to force legislatures to deal with gross inequities in school funding across districts resulting from differences in property wealth. More recently, court cases have focused on the adequacy of state funding, basing arguments on the so-called education clauses in virtually all state constitutions that require the state to provide an "adequate" or "thorough and efficient" or "basic" (or some other adjective) education to the state's children.

Both standards-based reform and court decisions requiring states to fund an adequate education are explicitly tied to questions about what students are supposed to learn and to what standard of achievement. Both approaches imply absolute criteria for acceptable performance (e.g., how much does some standard of performance cost?), rather than relative criteria (e.g., are students in State A learning more or better funded than students in State B?). However, the standards set by legislatures or state boards of education may or may not coincide with court requirements. The key issue for a court is what a state's constitution requires; legislatures or state boards

Figure 9

Status of School Funding Litigation in the 50 States



Current as of September 2, 2003

SOURCE: The ACCESS Project, available at <www.accessednetwork.org> Accessed October 30, 2003.

might choose to adopt a higher standard.† Some state courts have chosen to be quite specific about what constitutes "adequacy." In other states, courts have deliberately sidestepped the question, leaving it up to legislative or executive branch agencies to decide.

No matter what state entity specifies the state's educational objectives, the question then becomes how much money schools will need to give students the opportunity to reach these goals.†† The litigation over school finance adequacy has resulted in the first attempts to develop a systematic process for determining funding levels required to meet educational objectives. The process begins with specifying the goals to be achieved and then estimates the costs of reaching them through one of several emerging methods.[77] While these so-called costing-out methods are still rather crude, they are constantly being refined and will undoubtedly improve as they are more widely used and their results are examined and debated.

Working through a costing-out analysis cannot replace the political process by which elected officials weigh competing demands on scarce state resources. Moreover, the state of knowledge about how to improve student learning is such that establishing adequate levels of funding is still more art than science. Nevertheless, we think the California Joint Committee to Develop a Master Plan got the promise of adequacy right when it recently urged the state to modify its public school financing systems: an analytical "process of determining the adequacy of resources is an important advance over historical approaches of allocating money on the basis of what is available annually or how far above or below the national average a state is. It also furthers the goals of accountability by explicitly acknowledging a link between what is expected from public schools and the resources provided to meet those expectations. Further, *it enables state policy makers and taxpayers to consciously determine if they can afford to invest the resources needed to realize the education system they envision."* [78]

We urge all states to build analytical methods for determining the costs of meeting standards into their consideration of education funding. To ensure that costs are fairly reflected, policy makers should take several factors in addition to educational standards into account. Finance formulas should reflect the fact that children come to school with a diversity of educational needs and that schools in different parts of the state face different costs for educational services that are beyond their control. These factors can be incorporated into finance formulas by using weights that provide extra funding for students with special education needs and by including geographic cost adjustments. Many states already do some version of the former, though the weights they use are very different, suggesting the need for more research on the additional costs of addressing special educational needs. Very few states currently make geographical adjustments, even though several methods are available for doing so. Additional adjustments for especially small or especially large schools, to account for the higher costs that may be experienced in operating such schools, may also be appropriate.[79]

A cost-based approach to setting school funding levels also requires attention to keep-

† In New York State, for example, the state's highest court noted in a June 2003 ruling in *Campaign for Fiscal Equity, Inc.* that a "sound basic education" (which a 1982 court decision defined as the constitutional standard in New York) could not be equated to the Regents Learning Standards adopted in 1996. "[S]o to enshrine the Learning Standards would be to cede to a state agency the power to define a constitutional right." Instead, the court based its ruling on whether the state was affording school children "the opportunity for a meaningful high school education, one which prepares them to function productively as civic participants."

†† Whether court-mandated adequacy requires funding to ensure all students the opportunity to reach standards or funding to ensure that all students actually reach the standard is not always clear. Some courts do specify "opportunity," and this seems a more manageable (albeit still very difficult) approach, so we focus on it here.

ing cost-of-education estimates up to date by adjusting them for inflation over time. The failure to make inflation adjustments was a key reason why state "foundation grant" levels widely used during much of the 20th century fell increasingly below the costs of providing even a minimal education. We suggest that inflation factors appropriate to education should be built into annual state budget formulas and that every few years a formal study should be undertaken to review and revise the adjustment factors.

Likewise, we suggest that states should periodically undertake new studies to determine the costs of meeting their educational standards. As we have already indicated, improved methods of conducting these studies should become available as more experience is gained with them. Educational standards may change, requiring new analyses of the costs of meeting them. And, if the policies and practices we have recommended in this report become more widespread, effectiveness and efficiency will improve in ways that should be reflected in costing-out studies.

We have emphasized state financing formulas in this discussion of the costs of meeting standards because in both the political and judicial realms it is increasingly clear that the state bears the primary responsibility for ensuring that funding levels are set so that all children have the opportunity to achieve the standards. As we have said before, however,[80] we believe that school districts should carry a reasonable share of school financing because of the benefits individuals and their local communities receive from education. Our own view continues to be that there are efficiency reasons for including some local finance and encouraging localities to care about the operation of their schools by allowing them room to increase spending above the adequate level (at least up to some point) if they so choose. We recognize, however, that this is increasingly a question that courts, rather than legislators, are deciding and that courts are not of one mind about the legality of allowing spending to vary by location once adequacy for all students is assured. The supreme court in Wyoming, for example, expressly prohibited district "add-ons" to the state-determined cost of education, while its counterparts in New Hampshire and North Carolina expressly allowed them.

REFORMING STATE TAX STRUCTURES

The central role that states play in school finance makes the question of their capacity to fund educational standards a critical one. Both state and federal governments face serious budget problems. CED has called attention to the harmful societal consequences of large and persistent federal deficits.[81] While federal deficits matter for education, state budget woes threaten to have an even greater impact on schools, given the relatively greater importance of state spending and the fact that states, unlike the federal government, may generally not run deficits. Solutions for state budget problems are beyond the scope of this report but are likely to require fundamental changes in how states raise revenues.

State budgets are currently in dire straits because of conditions in the broader economy, but even when the economy improves many experts question how fast (or if) state fiscal health will return. State programs may be in jeopardy long after the national economy recovers from its current slump because (1) many states appear to be suffering from "structural deficits," meaning that public revenues are not growing as fast as incomes and as demands for public services; and (2) state tax revenues are quite volatile, resulting in "boom and bust" cycles of program expansion and contraction that can be devastating for people dependent on state-funded programs. Meeting the cost of education standards forces advocates to address larger questions of

what they want state governments to do and whether state revenue systems are equal to the task.

Economist Alice Rivlin raised this challenge in a Brookings Institution policy brief on the mismatch between state tax structures and the demands being placed on them. She points clearly to the danger of ignoring this challenge: "Politics, plus pressure to hold down tax rates for fear of losing jobs and affluent people, may result in under-funding services that most citizens favor and that would help the economy grow."[82]

States' capacity to meet the cost of educational standards may depend on their success in overcoming structural deficits and protecting their revenues from sharp cyclical swings that lead to program cutbacks.

Many tax experts believe that states face structural deficits because their tax systems have not kept up with economic changes and with the growing responsibilities with which states are charged. Many state services (education, medical care, social services) are people-intensive services whose costs tend to rise in step with real wages. Sales taxes revenues, historically the mainstay of state budgets, do not grow at the same rate. Income taxes produce revenues that rise in step with (or even a little ahead of) wages, yet only in 1998 did personal income taxes replace sales taxes as the single most important state revenue source. Nine states, however, still lack a broad-based personal income tax.

State sales and use taxes are also eroding as economic changes outstrip states' ability and willingness to adjust them. Services, as opposed to goods, now constitute the majority of personal consumption but are exempt from taxation in most states that impose sales taxes. Remote sales (via mail, telephone, and the Internet) are a growing source of consumption, but states' ability to tax these sales has been severely restricted by actions of Congress and the U.S. Supreme Court.

Interstate tax competition has, in the view of many tax experts, reduced the progressivity of state tax systems and led states to grant targeted tax incentives that have changed corporate income and other state taxes in a variety of undesirable ways. Excise taxes, a smaller but still important source of state revenues, are levied on a per unit rather than a cost basis and thus do not tend to keep pace with price levels. Moreover, they are regressive and impose disproportionate burdens on poorer taxpayers.

In addition to these structural problems, states are now facing budget pressures in part because they inadequately prepared for economic downturns, the most recent of which began in 2001. In the boom times of the mid-to-late 1990s, 43 states enacted large tax cuts. Those that made the largest cuts are in the worst fiscal trouble now. Most states have neither reversed these cuts nor enacted other tax increases to replace the lost revenue.[83] When states have increased taxes, they have tended to emphasize excise and sales taxes, thus exacerbating their longer-term revenue problems.

While many states set aside "rainy-day funds" during the 1990s, these reserve accounts have not proven large enough to protect states from the need to raise taxes or cut expenditures in the current downturn. Healthy reserves are increasingly important, however, as states depend more heavily on income taxes, because these tax revenues are more sensitive to economic downturns than other important states taxes like sales and excise taxes. Shortcomings in current "rainy day fund" policies highlight the need to begin thinking now about changes that can help such funds do a better job of protecting state programs in future fiscal crises.

The structural and cyclical problems with state revenues are technically and politically complicated. Addressing them forthrightly, however, is an important element in ensuring that states have the capacity to meet their educational goals.

Appendix

HOW PUBLIC SCHOOLS ARE FINANCED IN THE UNITED STATES

Because education is not mentioned in the federal constitution, elementary and secondary schools have historically been viewed as the responsibility of the states, which in turn delegated this responsibility to local school districts. Until the latter part of the 20th century, localities raised the majority of revenues for public schools, primarily through property taxes.

Revenue Sources for Public Schools, Selected Years, 1920-2000

School Year	Federal	State	Local[a]
1919-1920	0.3	16.5	83.2
1929-1930	0.4	16.9	82.7
1939-1940	1.8	30.3	68.0
1949-1950	2.9	39.8	57.3
1959-1960	4.4	39.1	56.5
1969-1970	8.0	39.9	52.1
1979-1980	9.8	46.8	43.3
1989-1990	6.1	47.2	46.8
1999-2000	7.3	49.5	43.2

a. Includes a small amount from nongovernmental sources. These sources accounted for 2.4 percent of total revenue in 1999-2000.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2002*, NCES 2003-060 (Washington, D.C.: NCES, 2003), Table 156.

The decentralized nature of school finance has led to very different patterns of burden-sharing between state and local governments and sizeable differences in per pupil expenditures across the nation.

State education aid to localities began as a way of ensuring that districts could provide at least a basic education to their students. Originally, this aid was provided largely through flat grants of a specified amount per student. Flat grants gave way in most states to foundation grants (which guaranteed districts a specified amount of funding per student from a combination of state and local tax sources) and/or guaranteed-tax-base grants, which guaranteed that districts levying the same tax rates would receive the same levels of revenues. These latter forms of state aid were intended to compensate for the large differences in property tax wealth among districts, which led to large per-pupil spending differences within individual states. In addition to these forms of general operating aid, states also provide funding to local districts and schools through a variety of categorical programs. These can run into many dozens in some states, covering a range of purposes from textbook purchases to transportation to teacher development.

Federal dollars also flow through categorical programs, mostly from the Department of Education. The largest federal program is the Title I compensatory education program, which provides grants to states and districts for educating disadvantaged students. The next largest Department of Education programs assist students with disabilities and students in vocational and adult education. Large programs outside the Department of Education include child nutrition programs (Department of Agriculture), Head Start (Department of Health and Human Services) and the education component of training programs (Department of Labor).

Sources of School Revenue and Per-Pupil Expenditures by State, 1999-2000

	Federal	State	Local[a]	Current Expenditure Per Pupil[b]
United States	**7.3%**	**49.5%**	**43.2%**	**$7,392**
Alabama	9.1	62.2	28.8	5,758
Alaska	15.4	58.9	25.7	9,668
Arizona	10.8	43.6	45.7	5,444
Arkansas	8.8	60.2	30.9	5,628
California	8.7	60.3	31.0	6,401
Colorado	5.4	41.3	53.3	6,702
Connecticut	4.1	40.2	55.7	10,122
Delaware	7.5	65.6	26.9	8,809
District of Columbia	20.4	n/a	79.5	11,935
Florida	8.4	49.5	42.1	6.383
Georgia	6.6	47.9	45.5	6,903
Hawaii	9.0	88.8	2.1	7,090
Idaho	7.7	61.1	31.1	5,644
Illinois	7.7	30.8	61.5	8,084
Indiana	5.3	52.3	42.5	7,652
Iowa	6.1	50.6	43.3	6,925
Kansas	6.3	62.4	31.4	6,962
Kentucky	10.0	60.7	29.3	6,978
Louisiana	11.5	49.5	39.1	6,256
Maine	8.0	44.6	47.4	8,247
Maryland	5.6	39.0	55.4	8,273
Massachusetts	5.3	43.7	51.0	9,317
Michigan	6.8	64.6	28.6	8,886
Minnesota	4.8	60.0	35.2	7,499
Mississippi	13.7	56.2	30.1	5,356
Missouri	6.6	37.6	55.8	6,764
Montana	12.2	44.7	43.1	6,990
Nebraska	6.9	36.6	56.5	7,360

continued

Mirroring financing patterns, governance of America's public schools is highly decentralized and fragmented. Along with taking on more financial responsibilities, states have grown in influence over instructional matters formerly left to districts. School reform efforts of the past 20 years have made states key players in setting educational standards and permitting (or not) the creation of new kinds of public schools such as charter schools. Federal influence over elementary and secondary education far exceeds Washington's share of financing, because virtually all districts and many schools received federal dollars and therefore can be subjected to federal regulations.

Educational finance and governance is further complicated by the diversity among states in the number and size of their local districts. Hawaii is a single, state-wide district. Maryland has 24 districts, coterminous with its counties. At the other extreme, California, Illinois, and Texas have over a thousand districts each. Only 13 states have fewer than 100 districts. K-12 education is more centralized, though, than the existence of nearly 15,000 school districts would suggest. While districts reflect an enormous range of size, a third of American public schoolchildren are enrolled in just 1.5 percent of all districts, those with 25,000 students or more.

continued

	Federal	State	Local[a]	Current Expenditure Per Pupil[b]
Nevada	5.0	29.1	65.9	6,148
New Hampshire	4.4	55.8	39.9	7,082
New Jersey	3.9	41.2	55.0	10,903
New Mexico	14.4	71.5	14.4	5,835
New York	5.8	44.8	49.5	10,957
North Carolina	7.1	67.6	25.3	6,505
North Dakota	12.9	40.2	46.9	6,078
Ohio	5.8	42.5	51.7	7,816
Oklahoma	9.9	58.4	31.7	5,770
Oregon	6.8	57.1	36.1	8,129
Pennsylvania	6.4	37.8	55.8	8,380
Rhode Island	5.8	41.3	52.9	9,646
South Carolina	8.4	52.8	38.9	6,545
South Dakota	12.5	34.5	53.0	6,037
Tennessee	9.0	45.8	45.2	5,837
Texas	8.6	44.2	47.3	6,771
Utah	7.5	59.2	33.4	4,692
Vermont	6.7	73.6	19.6	8,799
Virginia	5.7	42.6	51.8	6,491
Washington	7.3	63.5	29.2	6,914
West Virginia	9.5	61.7	28.8	7,637
Wisconsin	4.8	54.0	41.3	8,299
Wyoming	8.4	51.	9 39.7	7,944

a. Includes a small amount from nongovernmental sources.

b. Current expenditures are in unadjusted dollars per pupil based on average daily attendance. They do not include capital outlay and interest on school debt.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2002*, NCES 2003-060 (Washington, D.C.: NCES, 2003), Tables 157 and 186.

Public Schools Districts and Enrollment, by Size of District, 2000-2001

Enrollment Size	Number of Districts	Percent of Districts	Percent of Students
Total	**14,859**	**100 %**	**100 %**
100,000 or more	24	0.1	12.2
25,000 to 99,999	216	1.5	20.2
10,000 to 24,999	581	3.9	18.8
5,000 to 9,999	1,036	7.0	15.3
2,500 to 4,999	2,060	13.9	15.5
1,000 to 2,499	3,448	23.2	12.0
600 to 999	1,776	12.0	3.0
300 to 599	2,107	14.2	2.0
1 to 299	3,265	22.0	1.0
Size not reported	346	2.3	—

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2002*, NCES 2003-060 (Washington, D.C.: NCES, 2003), Tables 36, 88 and 92.

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Memoranda of Comment, Reservation, or Dissent

On the report as a whole, JAMES Q. RIORDAN with which PETER A. BENOLIEL, WILLIAM E. BROCK, and CAROL R. GOLDBERG have asked to be associated.

I am enthusiastic about the first four chapters of the report. I think they are excellent and reflect a great deal of careful study.

I am less enthusiastic about Chapter 5. The first-half of Chapter 5 appears to endorse (albeit passively) the idea that judges have and should have a constitutional right to mandate total state education budgets to make sure that they are "adequate," regardless of any or all other problems faced by a state legislature and governor. I believe that this is an undemocratic and impractical notion that in the long term will do much harm both to education budgets and the proper role of the judiciary. If good governance means anything, setting total budgets (and raising the revenues to pay for them) is the job of the legislature and the governor.

Judges have an important role to address illegal and unconstitutional budget distributions that deny equal protection but surely judges do not and should not have the power to enact budgets or mandate the collection of tax revenues. The statement should make this point clearly and strongly.

The second part of Chapter 5 offers a number of comments about the current status of state budget and tax systems. This is an important topic and would deserve a careful study and statement by CED. As important as the topic is, however, I do not think it is useful to offer a collection of ad hoc comments on tax policy that have not been the subject of a careful CED study process. The comments offered do not represent a coherent proposal. It's a mistake to publish them as a tag-along to a statement on education.

On the report as a whole, JOSH S. WESTON with which PETER A. BENOLIEL, WILLIAM E. BROCK, and CAROL R. GOLDBERG have asked to be associated.

This policy statement covers important ground in turning around the nation's public schools. No organization, be it public or private, can achieve its goals without competent systems for leadership, motivation, enhanced productivity, and recognition; our public school system generally lacks all four.

As this statement goes to press, new attention is being paid to the matter of work rules as they are codifies in elaborate contracts with the major unions involved in public education. In New York City, Councilwomen Eva Moskowitz has noted that union rules prohibit people hired to sweep the floors from vacuuming the rugs on those floors, and limit custodians to painting walls below a certain height.

The problem of work rules goes further than these examples, as this policy statement demonstrated. It is reflected in seniority rules that allow older teachers to cream-skim the system for jobs in the least difficult schools; and uniform pay scales don't distinguish between disciplines in long and short supply.

All of these problems have their roots in the union contracts. Teacher unions have played an important role in getting better environments and compensation for teachers. But it is not "anti-union" or "anti-worker" to insist that school systems have the flexibility to effectively evaluate, reward, and deploy workers. That includes assigning or incentivizing teachers to shift low-performance schools, and allowing maintenance staffs to move among different tasks while on an 8-hour day. Indeed, unless the unions come to grips with the crisis in our schools and play a positive role in moving forward, they risk isolating themselves in future rounds of negotiations.

On the report as a whole, JOHN BRADEMAS.

In my 22 years as a Member of Congress, I helped write nearly all the Federal legislation dealing with education. On reading this statement, I am struck by how many of the issues remain.

I applaud the emphasis on more business-like management of public schools but the argument that this is the key to improving student learning gives too little weight to such factors as per-pupil expenditures, qualified teachers, parental involvement, students with special need, poverty, race, and language.

Nor does the statement reflect sufficiently the economic and political realities surrounding school reform. The Federal deficit will be $521 billion while most state budget are also in deficit. Yet two years after enactment of the No Child Left Behind Act (NCLB), the report ignores the increasing criticisms that, confronted with mandates imposed by the Federal government, schools are not provided the Federal funds promised to implement the statute.

Instead, calling for "a level playing field," the report urges more spending on charter schools and describes public schools as "a monopoly," language that undermines business support for public schools.

The report speaks only reluctantly of the importance, in attracting qualified teachers, of compensation, focusing instead on giving administrators authority to link "some part of individual pay directly with teachers' demonstrated ability to foster student learning."

The report states that "the extent to which [the] new mandates [of NCLB] will be accompanied by the federal funds necessary to implement them is presently unclear." Untrue. The answer is very clear: The necessary funds will not be available.

A report by the National Academy of Sciences' Strategic Educational Research Partnership, chaired by respected business leader John Reed, notes that 47.6 million American children are in schools deemed "inadequate" under No Child Left Behind. Without needed resources, these children will, indeed, be left behind.

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Jobs for the Hard to Employ: New Directions for a Public-Private Partnership *(1978)*

*Statements issued in association with CED counterpart organizations in foreign countries.

CED COUNTERPART ORGANIZATIONS

Close relations exist between the Committee for Economic Development and independent, nonpolitical research organizations in other countries. Such counterpart groups are composed of business executives and scholars and have objectives similar to those of CED, which they pursue by similarly objective methods. CED cooperates with these organizations on research and study projects of common interest to the various countries concerned. This program has resulted in a number of joint policy statements involving such international matters as energy, assistance to developing countries, and the reduction of nontariff barriers to trade.

CE	Circulo de Empresarios Madrid, Spain
CEAL	Consejo Empresario de America Latina Buenos Aires, Argentina
CEDA	Committee for Economic Development of Australia Sydney, Australia
CIRD	China Institute for Reform and Development Hainan, People's Republic of China
EVA	Centre for Finnish Business and Policy Studies Helsinki, Finland
FAE	Forum de Administradores de Empresas Lisbon, Portugal
IDEP	Institut de l'Entreprise Paris, France
IW	Institut der deutschen Wirtschaft Koeln Cologne, Germany
経済同友会	Keizai Doyukai Tokyo, Japan
SMO	Stichting Maatschappij en Onderneming The Netherlands
SNS	Studieförbundet Naringsliv och Samhälle Stockholm, Sweden